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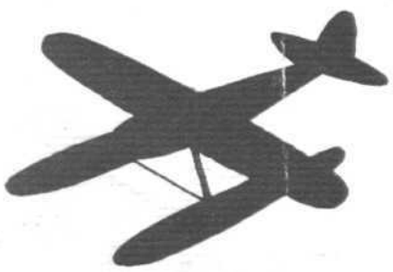
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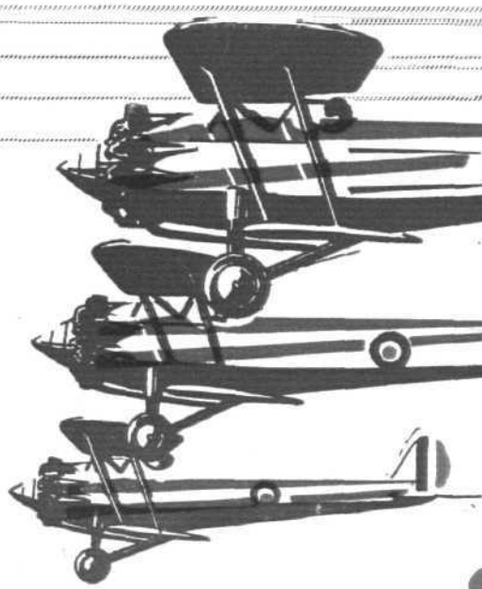
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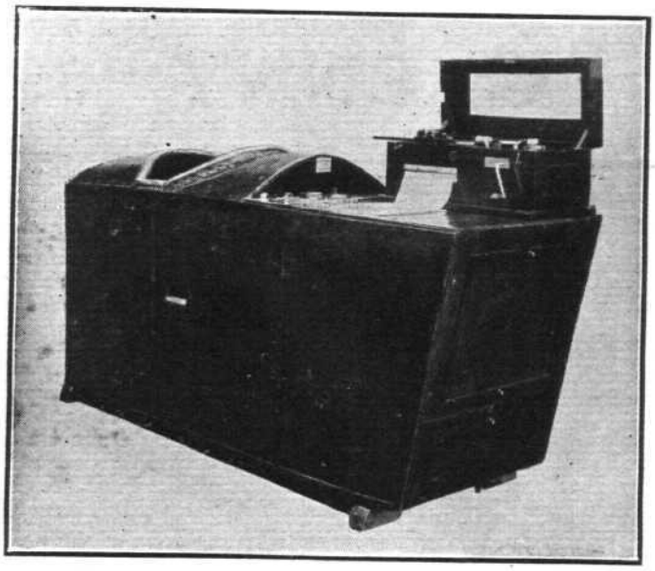
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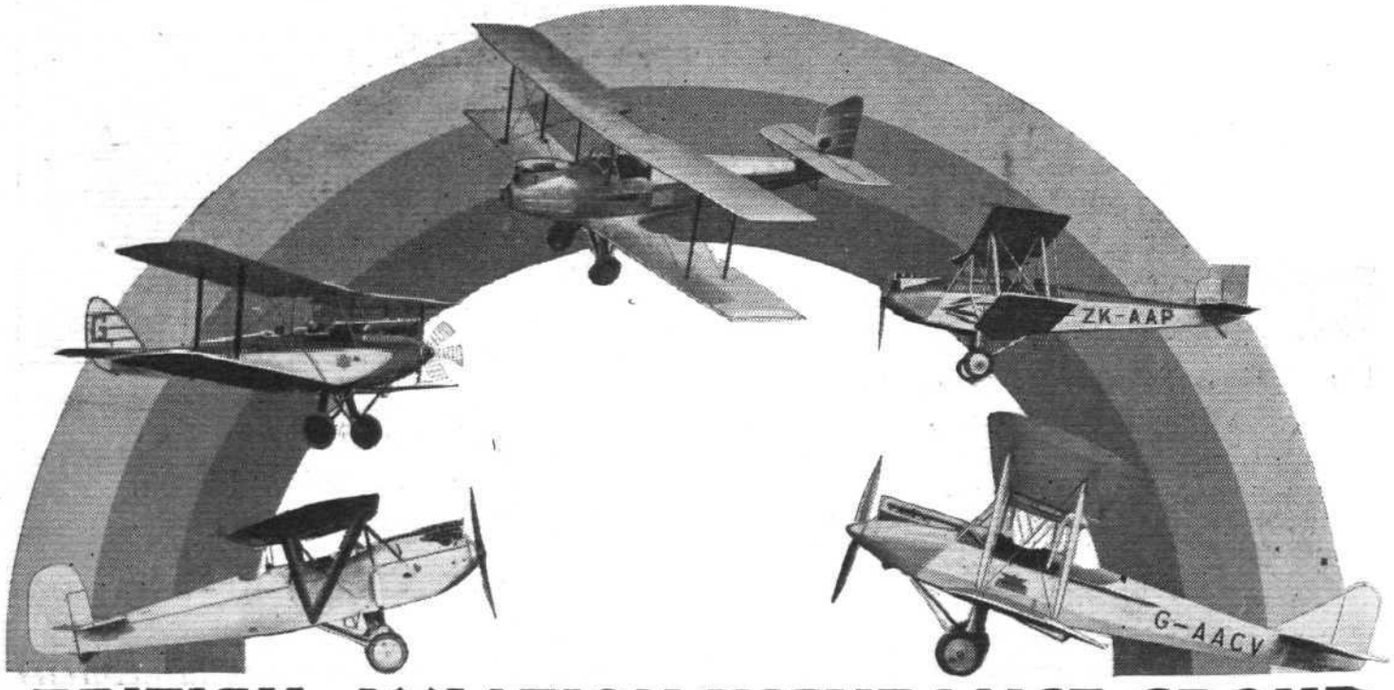
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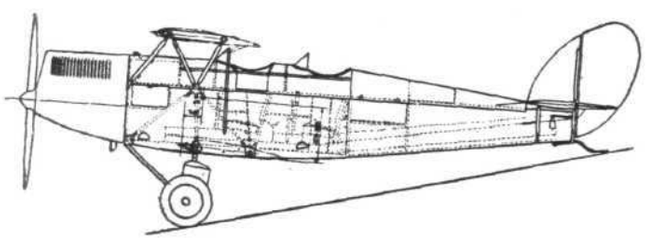
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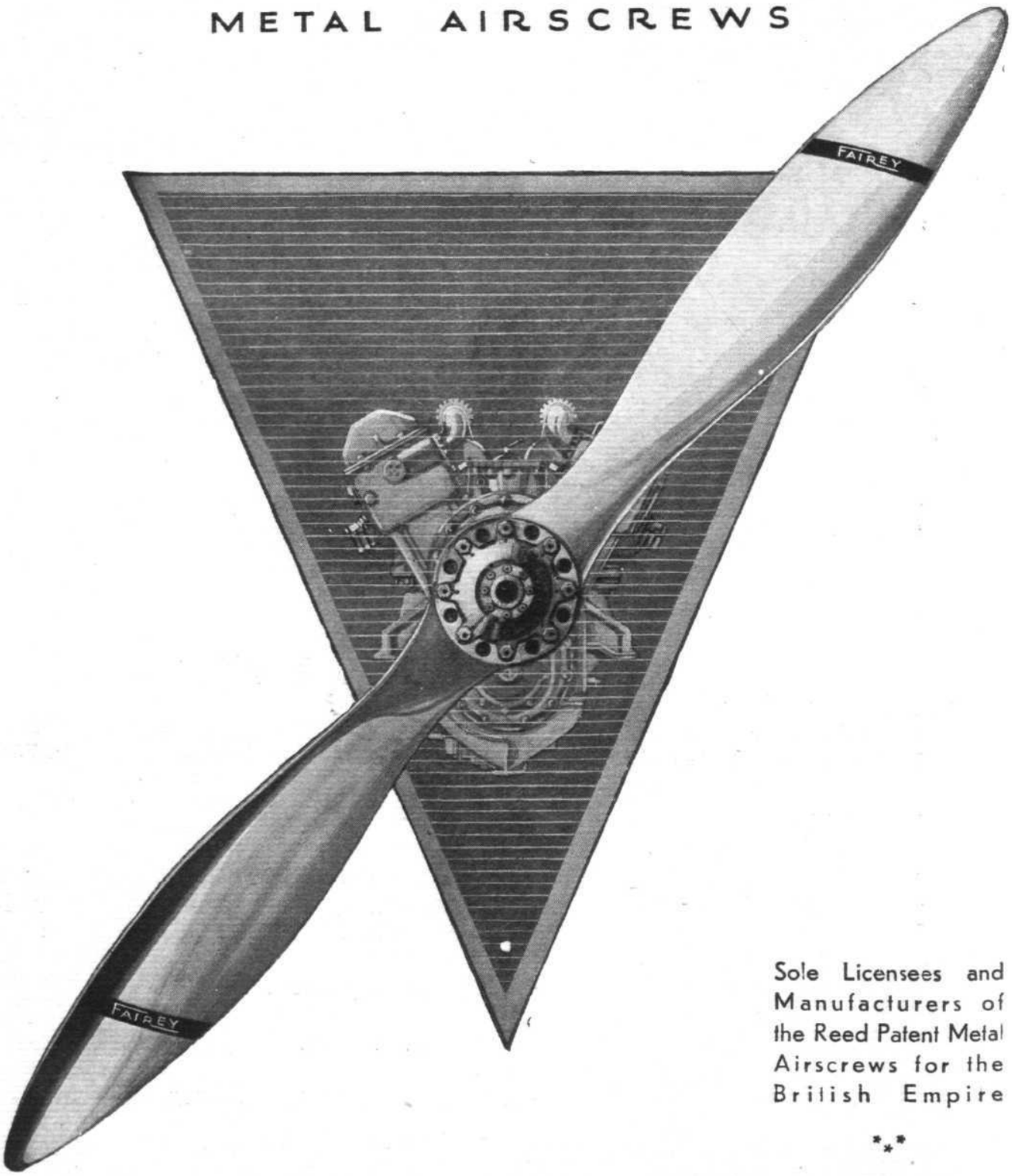
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DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1929.

Sept. 6-7 **Schneider Trophy Race, Solent.**
Sept. 10-20 **Aero Club de France Meeting, Le Baule.**
Sept. 21 **Air Rally at Haldon, Teignmouth.**
Sept. 22 **Bristol Aeroplane Club's Aerial At Home.**
Oct. 1 **Gordon-Bennett Balloon Race, St. Louis, U.S.A.**
Oct. 5 **Newcastle Air Pageant, Cramlington Aerodrome.**
Oct. 10 **Air Pageant and Light 'Plane Race, Hull Municipal Aerodrome.**
Oct. 31 **Guggenheim Safe-Aircraft Competition Closes.**

EDITORIAL COMMENT



THERE *will* be a Schneider Trophy Contest after all. Last week we expressed the opinion that the Italians would in all probability bring their machines here for the Contest, and as our readers will know by now from the daily press, the Italian challengers are now at Calshot with several types of machines, not all of which, however, are likely to take part in the navigability trials and actual Contest on September 6 and 7 respectively. The position is, as we are about to go to press with this week's issue, still a little obscure, but it is believed that most likely Italy will have in the Contest the three following machines: Two Macchi 67's, with Isotta-Fraschini engines, and one Macchi 52, the last the actual machine, although with a different engine, on which Major de Bernardi established a world's record of 318·62 m.p.h. last year.

The Schneider Trophy Contest

Two more types have been brought to Calshot, more, it is thought, by way of showing us what Italy had planned for the Contest, had time and circumstances permitted, than because of any intention of actually sending them off to challenge the British defenders on "the Day." It is hoped, however, that these two very interesting Italian types may be flown while in England, and thus give visitors to the Solent district a demonstration of Italy's progress with the development of high-speed seaplanes.

No very useful comparison between the Italian and British machines can be made in the absence of accurate knowledge of the powers developed by the various engines. In other words, one of the essential factors in the basis for an estimate of probable speeds is missing. It may, however, be interesting to examine the various types in a general way in order to see wherein they differ and wherein they resemble each other. Both British types resemble each other in so far as they are both low-wing monoplanes, and their general lines are also similar, although the Supermarine S.6, with its heavier and more powerful Rolls-Royce "R" engine, is a somewhat larger

machine than is the Gloster-Napier VI. Apart from this, the "nose" of the Gloster-Napier VI is a little different from that of the Supermarine-Rolls Royce S.6, due mainly to the fact that the former is a 12-cylinder "broad arrow" type of engine, while the latter is a 12-cylinder Vee type. The larger and more powerful engine requires a larger wing area to give the same landing speed, and, other things being equal, its drag may also be assumed to be greater, although it does not, of course, necessarily follow that it is proportionately greater. It will, however, be very interesting to see which of the two machines is the faster, the larger with the more powerful engine or the smaller with somewhat lower power.

Of the Italian machines, the three Macchi's, *i.e.*, the two Macchi 67's and the 1927 Macchi 52, are very similar in general design to the British machines. In other words, the type M.52 has amply proved its worth by establishing a world's record, still unbeaten, and is, presumably, regarded by our Italian friends as a good old reliable "horse," much as we now look upon the 1927 Supermarine S.5's, with Napier "Lion" engines. The Macchi 67's appear to be logical developments of the type M.52, "cleaned up" as much as may be and, one presumes, with their new engines of greater power. In aerodynamic design it appears doubtful whether there are many miles per hour between the British machines and the two Macchi 67's. Much will, therefore, depend upon the power which the British and Italian engines develop.

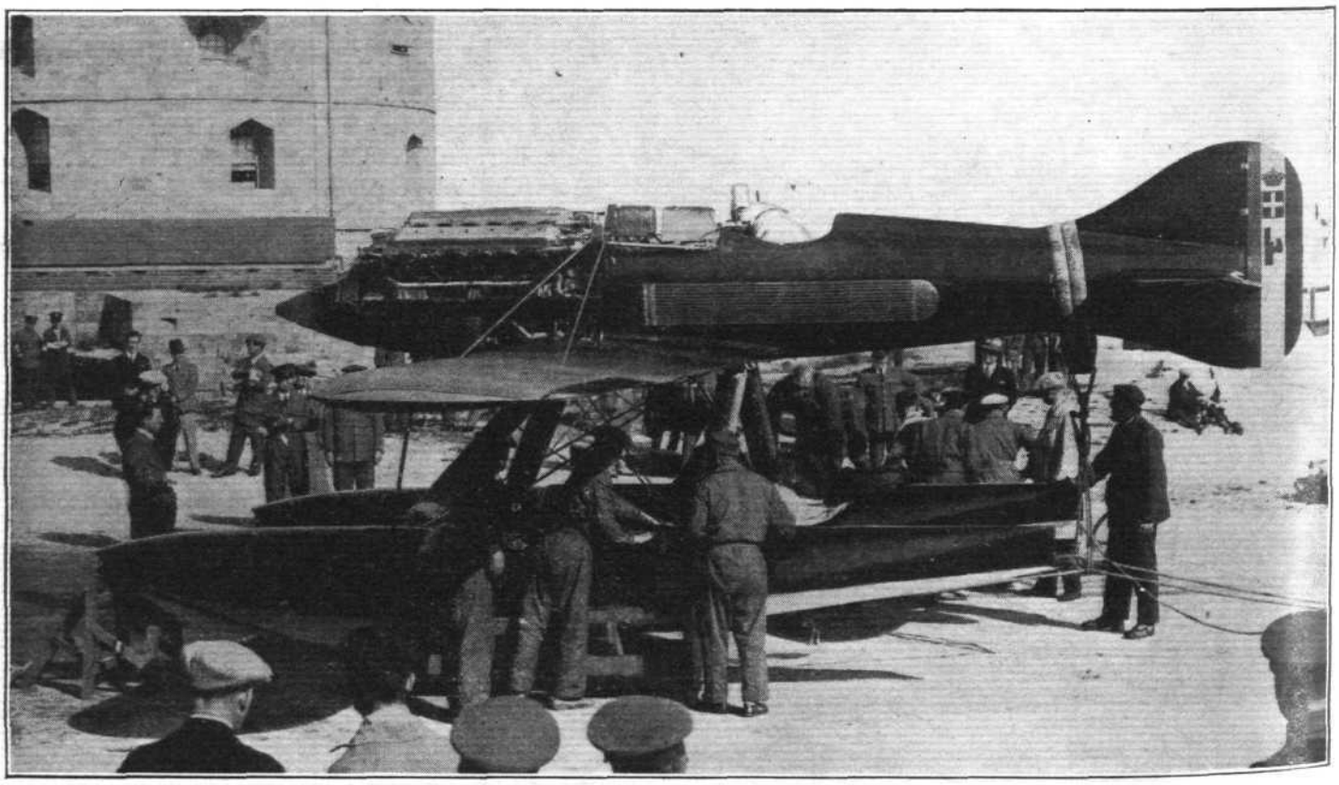
Of the British engines, it is known that the Rolls-Royce "R" fitted in the two Supermarine S.6's is a very powerful engine indeed, with a special supercharger to assist it in developing the extra power, and a reduction gear to improve the efficiency of the Fairey metal airscrew. The Napier "Lion," while retaining the outward appearance of the 1927 models, has also been persuaded to give off quite a lot more power than did the 1927 engines, although its frontal area is, if anything, a little smaller than before.

The Italian engines are as much unknown quantities as are the British, where power developed is concerned. The Macchi 67's, it will be noted, are fitted with Isotta-Fraschini engines of the same general "broad arrow" type as the "Lion," but have six cylinders in each bank, or a total of 18 cylinders. For the same cylinder dimensions, and other things being equal, the I.F.'s should, therefore, produce something like 50 per cent. more power. Whether they do so or not we have, of course, no means of knowing. That the Macchi 67's will be formidable opponents is not to be doubted.

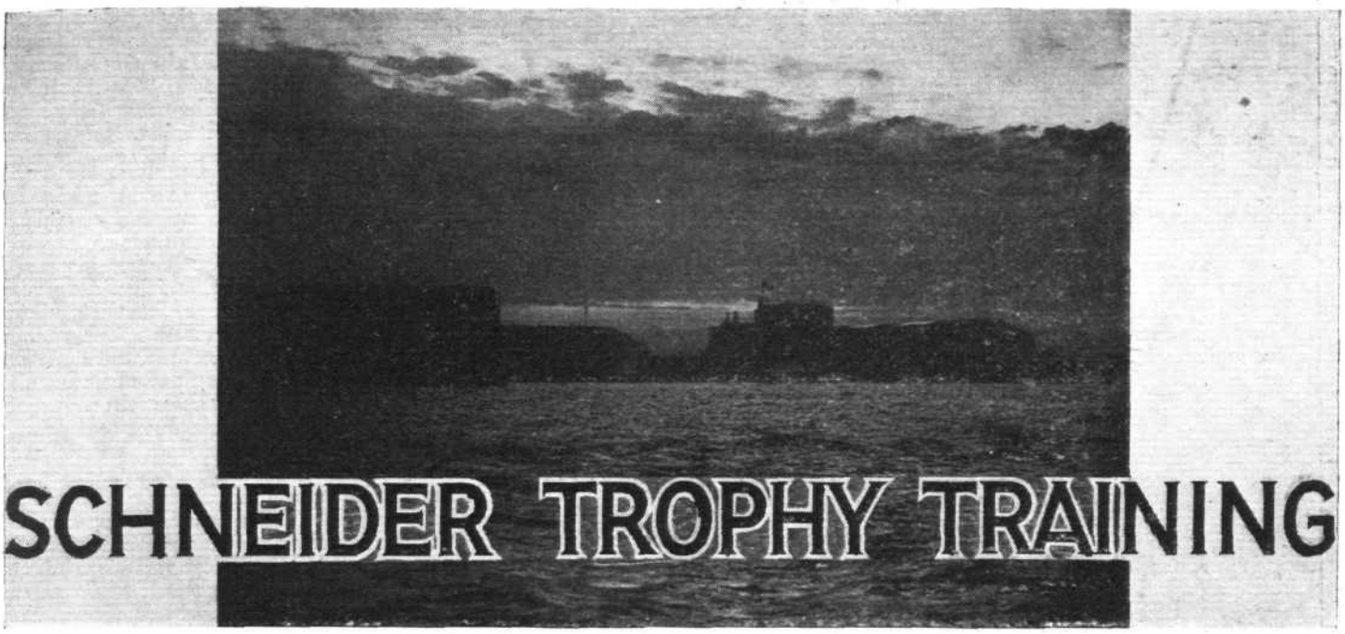
The little Fiat machine, smaller even than the Gloster-Napier VI, it is said, although this seems almost impossible, has a Fiat engine of the 12-cylinder Vee type. The machine is orthodox in its general design, except for the "conning tower" type of windscreen, which, when closed totally, covers the pilot's head. The wing area is very small, and the Fiat is reported to have a tremendously high take-off speed.

The twin-engined Savoia-Marchetti machine is most unorthodox, and makes use of the engine arrangement about which Mr. Carter wrote so interestingly in our monthly technical supplement THE AIRCRAFT ENGINEER. At the moment, it seems doubtful whether this machine will be put into the Contest.

Although it is impossible to forecast in advance which machines will take part in the Contest, a likely guess is, perhaps, that the British defenders will be composed of one Supermarine-Rolls Royce S.6, one Gloster-Napier VI, and one of the Supermarine-Napier S.5's of 1927 as third string. If a similar policy be followed by Italy, the challengers may be either the two Macchi 67's, or one M.67 and the little Fiat, as the first and second strings, and de Bernardi's Macchi M.52 record holder as third string. That, however, is almost mere guesswork. Whichever machines take part, the Contest is certain to be a fascinating one. May the best man win!



A FORMIDABLE CHALLENGER: The Macchi M.67 is fitted with an 18-cylinder, broad-arrow type Isotta-Fraschini engine. ("FLIGHT" *Photo.*)



SCHNEIDER TROPHY TRAINING

By MAJOR F. A. de V. ROBERTSON, V.D.

Calshot, Wednesday, August 28.—Poor old British weather! As an old Anglo-Indian, I have always regarded it as the very worst thing which Zeus, Jupiter, Thor, and Mitchi Manito the Mighty could turn out of their cauldrons for the bewilderment of intrepid aviators. But it now seems that Lake Garda can do even worse than the Solent. Please let no one think for a moment that I intend to speak lightly of the difficulties which the Italian team have had to face—still less of the culminating tragedy, which is mourned as sincerely by every Briton as it is by the Italians themselves. But as a general rule we are apt to think of them as being very much better off than we are in having fine weather for practising; and our own bad weather is such a standing joke with everyone that we could scarcely help a smile when we heard that the bad weather in the last few weeks on Lake Garda had been made an excuse by the Italian Embassy for asking for a postponement of the race.

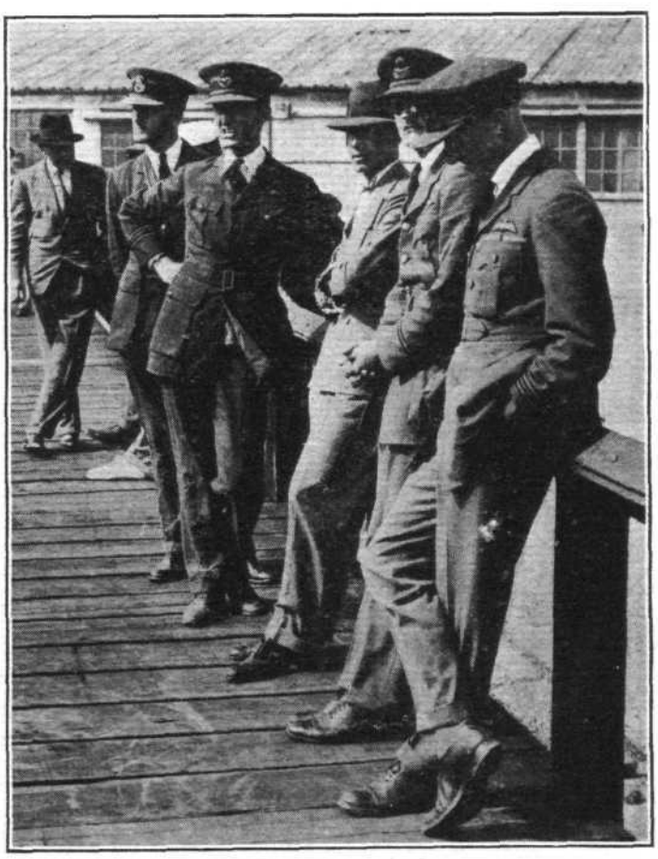
I believe, as a matter of fact, that most of the Italian pilots have done from 50 hours upwards on high-speed seaplanes, while our own men have only done something like 10 hours. I rather think that Atcherley is not yet into double figures, while Waghorn must have done less than any, unless Orlebar is even worse off.

It is rumoured that the Italians are bringing over one seaplane which has not yet even had its floats in the water. Well, in that respect, too, we are not so much better off. Both our Supermarine-Rolls Royce machines have been flown satisfactorily, but the Gloster Napiers are still an unknown quantity. Ever since Sunday, Mr. Warner and Mr. Tallin, with their myrmidons, have been working full steam ahead to run to earth the cause of the petrol stoppage. Last night they were working all night. Now I think they are confident that they have located the trouble. It will be interesting to see whether the same symptoms are developed by the other machine, N 250, which is nearly ready for a run-up.

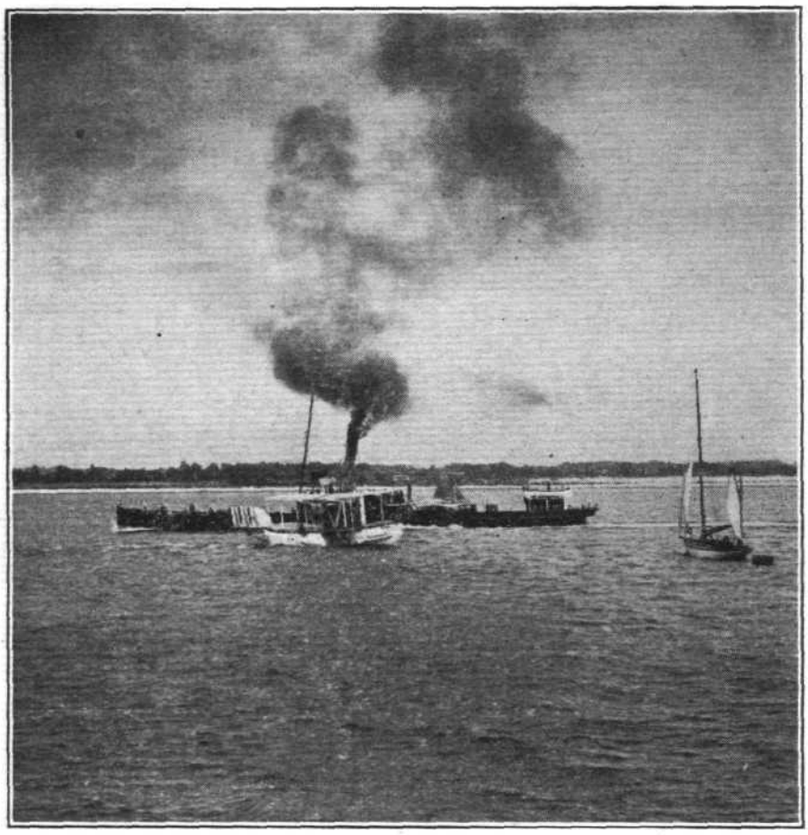
Meantime the weather has given no chance for taking high-speed machines out since Sunday, and D'Arcy Greig and Stainforth in particular have been short of flying practice. The latter had not been in the air for several days until this morning, when he and Waghorn went up on the two Flycatchers. Stainforth took the one with the flat-bottomed floats and stayed up for about an hour. He gave a really beautiful display on it, and his slow rolls especially were models of what that manœuvre should be. It is a fact that whichever pilot of this H.S. flight is in the air, one always thinks that one has never seen better flying.

The five pilots all seem to be very distinctive types of men, and yet there seems to be one common spirit in the Flight. Their skill as pilots is common knowledge. The spirit to which I allude might be described as a blend of dash and caution. In Atcherley, perhaps, the dash would probably outweigh the caution but for the influence of Squadron-Leader Orlebar. As a team leader he has won immense respect. It is rather a delicate matter to discuss in print men whom one meets every day, but the readers of FLIGHT will have a natural desire to know something of the pilots who are to represent Great Britain in this great event. These pilots, serving officers though they be, are now public characters. Though personally they may shrink from publicity, it is inevitable that they must submit to a certain amount of it. Photographers have opened machine-gun fire upon them, and each has been placed on the operating table and anæsthetised, while a cartoonist has worked his wicked will upon them. So perhaps the correspondent of a respectable family paper may also give his impressions without causing offence.

During the war I was sometimes fortunate in serving



Late Under-Secretary of State for Air visits Calshot: Sir Philip Sassoon with members of the British Schneider Team. In the background may be seen Sqdn.-Ldr. Jones Williams, of England-Karachi fame, who brought Sir Philip down by "Moth." *(FLIGHT Photo.)*



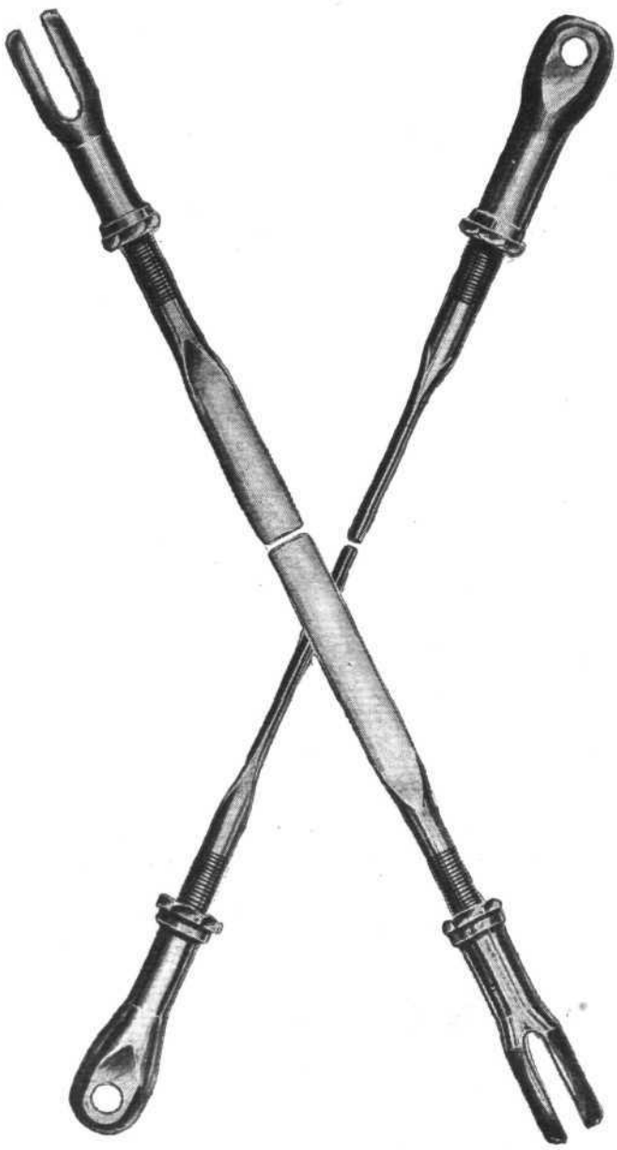
When outboard engines score: A Supermarine "Southampton" flying-boat, about to take members of the Italian Schneider Team over the course, is called upon to do some manœuvring on the water to avoid the Cowes-Southampton steamer and a yawl off Calshot. *(FLIGHT Photo.)*

under some very good commanding officers, and sometimes I was not so fortunate. I think a man who has to serve under Sqd.-Ldr. Orlebar ought to count himself very fortunate. It puts nearly all the matter in a nutshell when one points out that Orlebar will not let one of his pilots touch a single one of the new racers until he has taken it up himself and tried it out thoroughly in the air. We all know the quality of the designers who have produced these machines and engines; but there might be some miscalculation. Orlebar stakes his life against the chance of such a mistake. When Atcherley had taken his seat in the cockpit of N.247 before making his first flight on that machine, the squadron leader climbed up on a float and gave him some final instructions before the machine was lowered down the slipway. He seemed more nervous then than when he was taking the machine out himself. The High Speed Flight bears all the appearance of a happy family, of a crew pulling all together and keeping good time. This would not be so unless the C.O. were the right man. On paper, Orlebar has the right qualifications for the post. He has been a Martlesham pilot and he has passed through the Staff College, and he evidently justifies those qualifications. His photograph has been published, but he is one of those men whose photographs do not give a life-like impression. I must, with renewed apologies to him, be a little personal. He looks anything but robust, though no doubt he satisfies the medical authorities. Though his features are strongly marked, one thinks more of his expression than of his features. The features are those of a man who is clever, firm, and strong. The expression is usually smiling. I feel sure that he could be very strong if it were necessary.



18 CYLINDERS AND HOW MANY H.P.? The Isotta-Fraschini engine in the Macchi M.67 s is of the "Broad arrow" type, with 6 cylinders in each bank. *(FLIGHT Photo.)*

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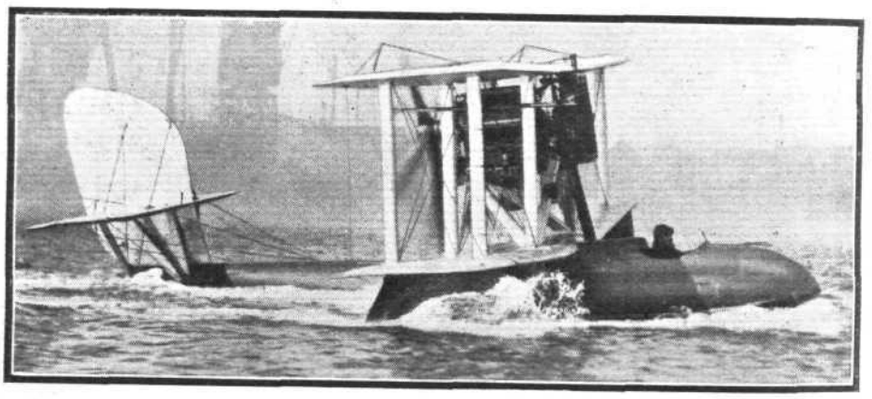
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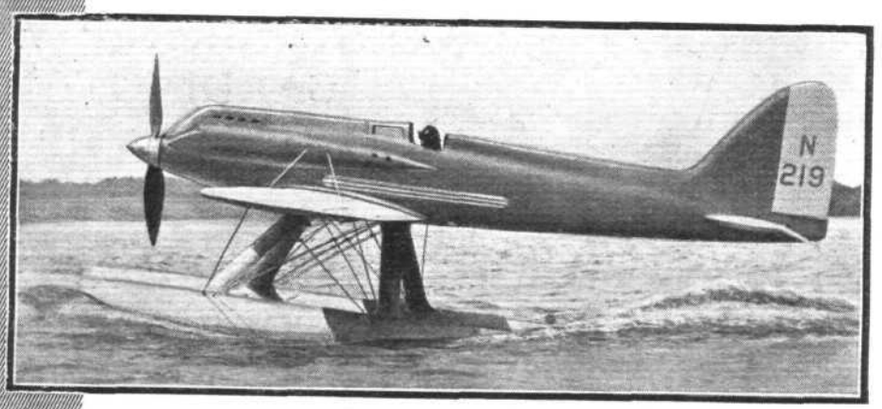
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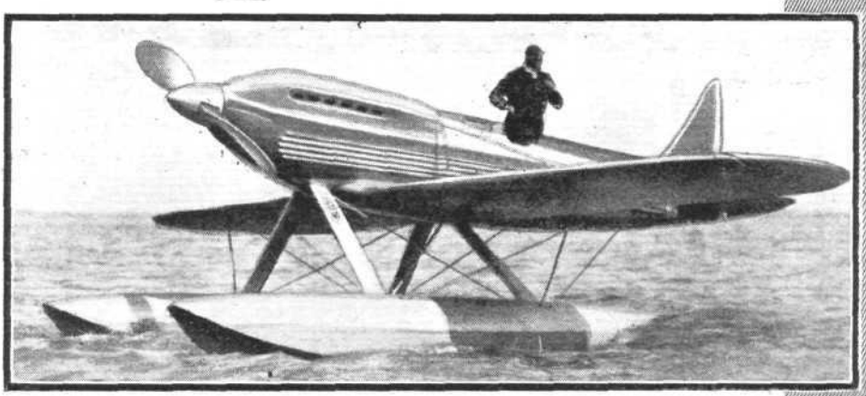
Supermarine Sea Lion (450 h.p. Napier Lion Engine). Average Speed 146 m.p.h. Winner at Naples 1922.



Supermarine Napier S.5. (1,000 h.p. Napier Lion Engine). Average Speed 281.65 m.p.h. Winner at Venice 1927.

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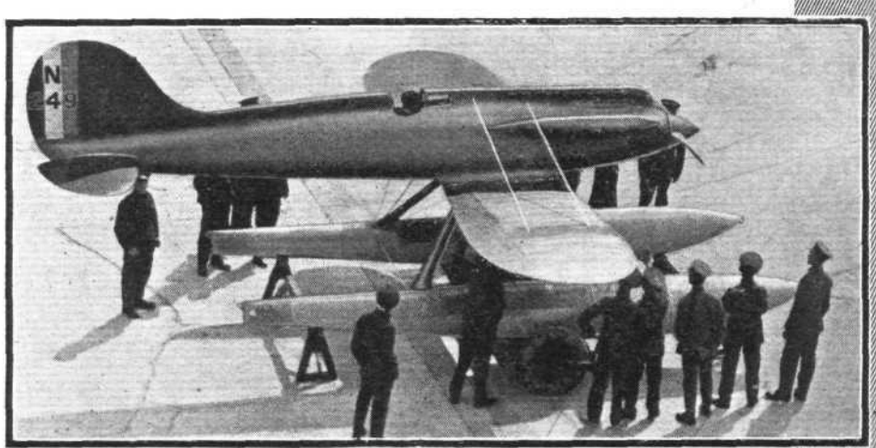


Sqdn. Ldr. A. H. Orlebar, A.F.C. O.C. of the High Speed Flight, in the cockpit of the Supermarine Rolls-Royce "S.6."

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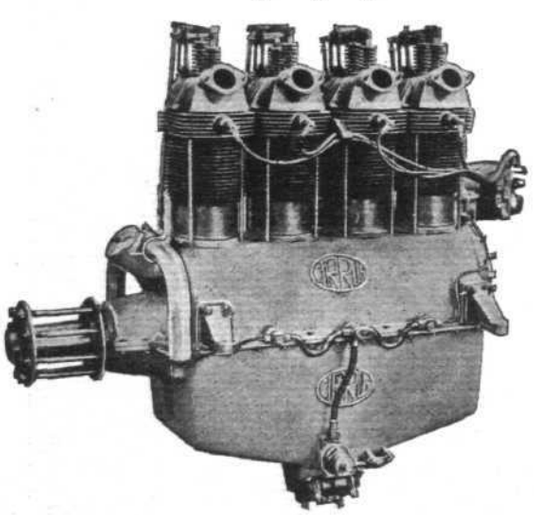
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and at the same time that it can seldom be necessary for him to use his reserve powers. I think he would always be obeyed willingly and cheerfully, and that is about the highest praise which one can give to a commanding officer.

Flight-Lieut. D'Arcy Greig has earned both the Distinguished Flying Cross and the Air Force Cross. That combination speaks for itself. The former is only granted for gallant services in the face of the enemy; the latter implies exceptionally good work other than fighting. He was once shot down behind the German lines, 12 miles behind to be accurate, and both he and his observer made their way back by night, got through the lines and rejoined the British forces. He got no decoration for that. His D.F.C. came later, in Iraq. He is a pilot of unusual skill who uses his head. He is very interested in the scientific side of high-speed work, realising that the High Speed Flight is a sort of laboratory for testing out theories. It must work with the medical authorities on the problem of how the human factor is affected, and with the Farnborough scientists on such problems as the pitch of airscrews. I should not be surprised if D'Arcy Greig makes mental notes on some of these problems as he dives to cross the line in a record-breaking flight; in fact I am sure that he does so. A fast aeroplane driven by a supremely skilful hand and animated by a calmly thinking brain becomes a wonderful instrument in a fight or a race.

Flight-Lieut. Stainforth is a Sandhurst man, a former officer of the Regular Army. He bears the stamp of that training, and yet either in the army or in the air force, one could not call him an ordinary type. His manner is quiet and serious, and when he is aground one would not at once connect him with the idea of 300 odd miles an hour. When one says that a man looks imperturbable, one thinks that he must be a slow mover. But just see Stainforth in an aeroplane! He makes that move all right. He was the second officer to be chosen for the High Speed Flight, which shows what the authorities think of him. He has not yet had a chance in one of the new seaplanes, and we look forward to seeing him in one.

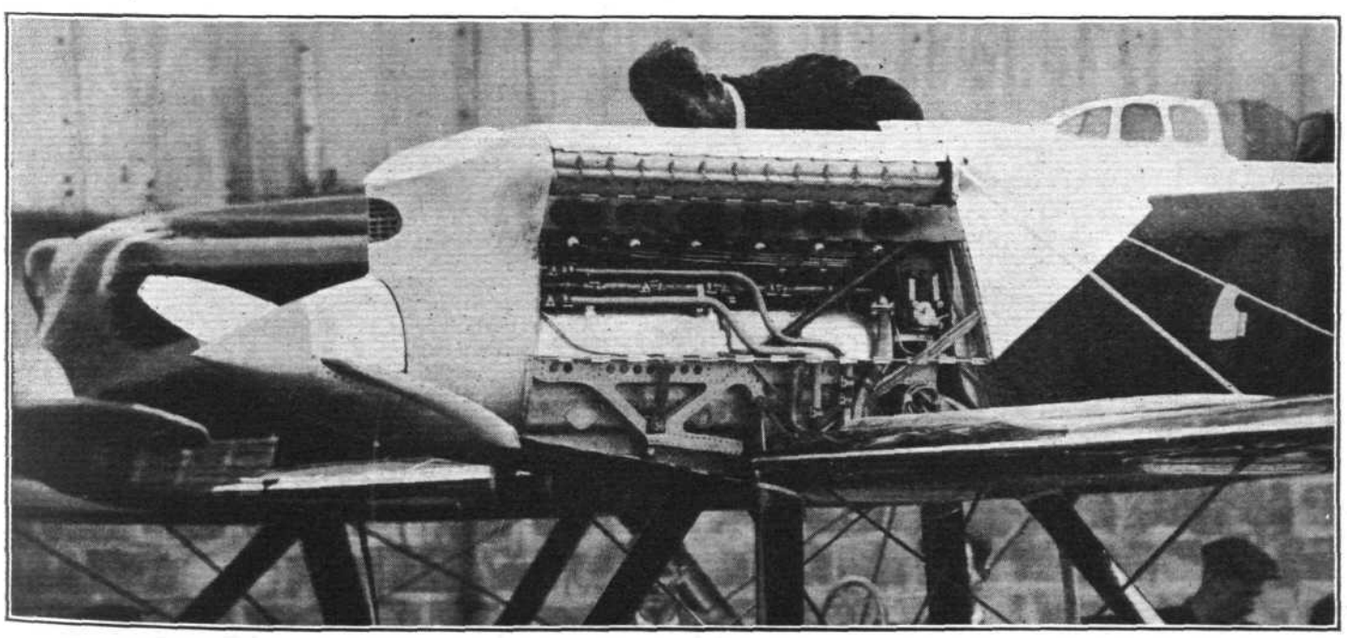
Everyone knows something about Flying Officer Atcherley, but not everyone knows that he won the Groves Memorial Prize at Cranwell, with Waghorn as a close runner-up. Nor does everyone know that when he was a boy (he is 25 now, but the Italian officers have christened him "Sonny Boy") he went as an apprentice into the Blackburn works at Leeds. It must have been pretty rough in the shops, but it did not quell his ardour; so his father sent him to Cranwell, while his twin brother went to Sandhurst. The latter is now also in the air force. What everyone does know about Atcherley is that at the Blackpool air pageant he and Boyle flew in Moths upside down so low that those at the back of the crowd could scarcely see them, that he looped a Gloster Schneider biplane, and that with Stainforth as navigator, he won the 1929 King's Cup in a Grebe. He has a host of



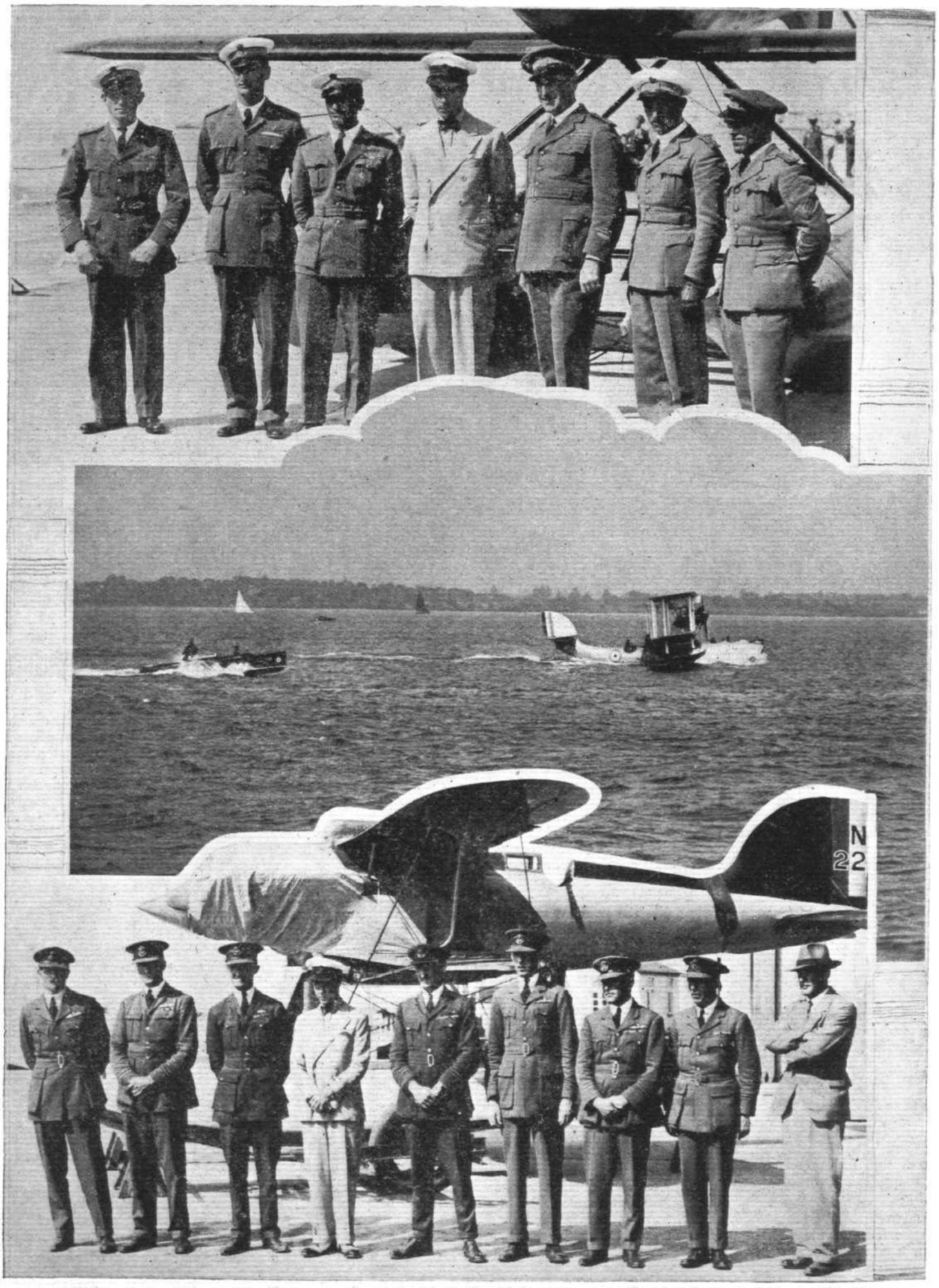
Italian interest in British practice: Signor Balbo (left), Italian Under-Secretary of State for Air, watches the Gloster-Napier VI making her first trial flight. ("FLIGHT" *Photo.*)

friends, a raucous gramophone, and a complete disregard for his own neck. I think, however, that Orlebar has persuaded him that his neck, though he may think it of little value to himself, is a national asset until the race is over.

Flying Officer Waghorn was at Cranwell with Atcherley, is of the same age, and has flown much with him since. He is the most retiring of all the pilots in the flight, and until a few days ago he was the least known of all. But he was a dark horse. That flight of his on the Supermarine Rolls-Royce S.6 (N.247) opened the eyes of those who knew nothing



THE BUSINESS END OF THE FIAT RACER: An Italian engineer working on the Fiat engine, which is a 12-cylinder vee type. ("FLIGHT" *Photo.*)



THE PRINCE WITH THE SCHNEIDER TEAMS : Above, with the Italians, below with the British team, and in the centre, just taking off on board a Supermarine "Southampton" for a flight over the Schneider course. The Prince will probably watch the Contest from Sir Henry Segrave's speed boat "White Cloud."
("FLIGHT" *Photos.*)

before, and it will live in the memory of all who saw it. He is a really beautiful pilot, and he will certainly go far.

I do not envy Orlebar the task of picking a team of three out of this flight. It will seem so utterly impossible to leave any one of them out. Still when FLIGHT offers a large prize for a correct forecast, I shall have a shot at winning it. It may be easier for an ignorant outsider than for one who knows all the ins and outs.

The Italian Team Arrives

Thursday, August 29.—To-day's great news is that the Italian team of pilots has arrived. The party consists of Colonel Bernasconi, Lieutenants Giovanni Monti (no relation to the Italian assistant air attaché), and Remo Cadringher, Maresciallo (Warrant Officers), Tomaso Dal Molin, Serjeant-Major Francesco Agello, and Doctor Marocco. The party left Italy on Tuesday and to-day motored down from London to Calshot, where they were very warmly welcomed by the British officers. Monti is a tall fair man aged 29, Cadringher a shorter man of 26, while the warrant officers are both aged 27. The doctor is nicknamed by his compatriots "The Englishman," on account of his appearance; but I have noticed that a great many Italians look very much like Englishmen. History tells us that the Lombards and the Angles were once next door neighbours somewhere in the Low Countries before they started migrating in different directions.

The Colonel gave a brief interview to the press in the mess at Calshot. He said that they had come over in hope, but the hope rested rather on their pilots than on their machines. He and his four companions as well as two others, namely, Bernardi himself and the late Capt. Motta) had all exceeded Bernardi's world record over the 3 km. course. Those who had done so wore a small red badge in their buttonholes. He hoped that they would fly round the course to-morrow on the two Macchi Fiat 52 seaplanes which are ready at Calshot.

The party seemed very tired after their journey, but they were not allowed to drink; and when their hosts offered them coffee, Colonel Bernasconi interposed and said it might keep them from sleeping.

I hear that the method of selecting the Italian team has been very elaborate. In the first place some 50 good pilots were sent to Turin for preliminary examination. From these about 20 were selected for further tests on fast seaplanes; and finally the number was cut down to the six who are here now.

On Saturday a further party of 20 officers and 40 airmen will arrive at Totton station accompanied by the special trucks containing four seaplanes. These are two Macchi 67's, Bernardi's record Macchi 52, and one Fiat with Fiat engine. It is doubtful whether a Savoia or a Piaggio will also be sent. In addition there remain in Italy two seaplanes built specially for the 3 km. course, which, of course, would not carry enough fuel for the Schneider course. It looks as if that record will remain in Italy, even if we put up a record immediately after the race.



H.R.H. THE PRINCE OF WALES AT CALSHOT: On his way to inspect the Schneider machines, accompanied by the C.O. of the Station, Group-Capt. Nanson. ("FLIGHT" *Photo.*)

Another Blank Day

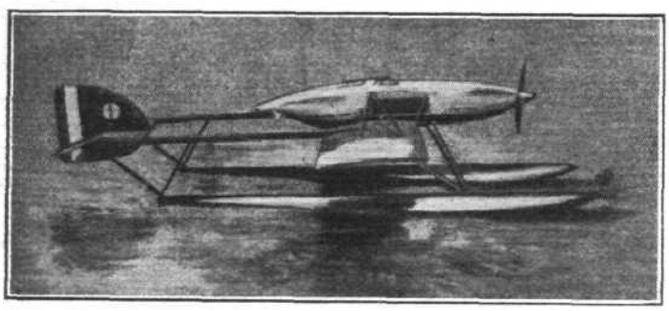
To-day saw no flying on our new machines. In the morning early Atcherley was towed out in the S.6, N.248, but found conditions unsuitable. N.248 was then sent back to the Supermarine works, but in the late evening N.247 arrived back at Calshot with a new engine and a new starboard float with larger tankage in it. Additional radiator surface had also been fitted on top of the floats. She arrived about 8 p.m. and a working party immediately got busy on her and worked until 5 a.m.



ITALY'S FASTEST CHALLENGER?: The little Fiat monoplane, with Fiat engine, is reported to be extremely fast, but to have a very high take-off speed. ("FLIGHT" *Photo.*)

All day the Gloster and Napier mechanics laboured hard on N.249 and N.250. The engine was lifted out of N.249. That in N.250 was run up at intervals. This party also indulged in an all-night sitting.

During the day Stainforth, D'Arcy Greig and Atcherley practised round the course in Flycatchers, and Waghorn went up in the Avocet.



Not a likely starter, but a very interesting machine. The Savoia-Marchetti S.65 has two Isotta-Fraschini engines in tandem, the pilot sitting between them.

Friday, August 30.—This morning, at 11.10 a.m. Atcherley had a flight of 24 minutes on the S.6, N.247. He went round the course once. When he was towed in his starboard float unfortunately fouled the slipway. Everyone got a fright, but the damage proved to be only slight.

Sqdr.-Ldr. Jones Williams flew Sir Philip Sassoon over this morning in a Coupé Moth and landed in a field not far from the mess. Sir Sefton Brancker was also at Calshot this afternoon.

I understand that serious work has now been begun at Woolston on the Supermarine Napier S.5, No. N.219. This is the machine which was flown by Worsley in the race at Venice, with a direct drive engine, and which finished second. It will have the latest improved type of 1927 racing Napier installed for the race.

By the evening Orlebar was getting desperate, and day by day D'Arcy Greig's face has been getting longer. The contest starts a week from to-day and so far neither D'Arcy Greig nor Stainforth has been up in one of this year's racers. Mr. Tallin and Mr. Ransome of the A.I.D. pronounced N.250 fit to fly. So she was loaded on to a pontoon and towed far up Southampton Water. In the afternoon the Italian pilots had been flown round the Schneider course in two Southampton flying-boats, and the boats had been told to look for calm water in any bay in the neighbourhood. They could find none. So the only chance was to try Southampton Water, though it is usually too crowded with shipping to give racing seaplanes a fair chance. But the wind and tide were opposed and the water was too rough everywhere, and N.250 had to be towed home. The question is will D'Arcy Greig and Stainforth get any practice at all on this year's machines? Verily our case is not much less difficult than that of the Italians.

At Last!

Saturday, August 31.—The morning was sunny and the wind blowing nearly half a gale, but during lunch time some heavy showers of rain fell and had a wonderfully soothing effect upon the waves. In a few minutes the air was so full of high-speed seaplanes that one could not watch them all. At least so it seemed after such a long period of aircraftless skies. At first there were two up together—Monti in the "Moor of Venice," and Orlebar in the Gloster-Napier N.250. At one moment two thrills—it is no use trying any longer to write English; I simply must burst into journalese. An Italian in the air and a Golden Quill (I don't think anyone else has yet called it that) off the water! I really believe we shall have a Schneider Contest after all.

Monti took his begrimed Macchi round the course—twice, I should think—but he was lost most of the time in the haze over the Isle of Wight. He was in the air for half an hour, and the "Moor" added that much to his total of 400 flying hours.

Of course, those of us who had been at Venice were familiar with the appearance of a Macchi 52 in the air. We naturally concentrated our attention on the Golden Cigaretteholder (another novel and brilliant inspiration!). Orlebar did not wait for pontoons or tow-boats. He taxied the machine straight off from the southern slipway. He got off with the shortest run I have ever seen from a racing seaplane. Three independent watches all made it under 20 secs. We watched anxiously. Would the Golden Toothpick (I am rather afraid that has been used before) show a tendency to loop? It did not. It seemed to fly like a very well-behaved seaplane. Orlebar circled round at a cruising speed which the best aviation experts did not judge to be above 400 m.p.h., and did some gentle banks. He landed after about 12 mins., and when he returned to the pier General Balbo and Col. Bernasconi both shook him warmly by the hand.

Gen. Balbo, the Italian Under-Secretary for Air, arrived here to-day in mufti, as genial and courteous as ever. Perhaps it was his influence which calmed the waves. He is making his headquarters at the Gloucester Hotel at Cowes.

A Leaky Float

And after this sudden rise in our spirits, there came a change and the thermometer went down. Without delay the Supermarine Rolls-Royce N.247 was run up on the top of the slipway, and Waghorn took his seat in the cockpit. I understand that a full load of petrol was put on board. Waghorn taxied straight across the water and turned into wind. Then he began to open up, but the machine refused to sit up on her steps. She merely dipped her tail until it looked from the pier as if it went under water and pulled the machine up. Waghorn was clearly puzzled, and kept on trying to get the machine off for about 18 mins. Then he gave up and stopped his engine. The machine was towed back with the pilot sitting on the port float. For a while everyone was most depressed, but Mr. Mitchell soon diagnosed the trouble. A rubber gland at the point where the strut enters the float had been overlooked, and the starboard float had shipped about 25 gallons of water.

Meantime Stainforth and D'Arcy Greig had gone up in two Gloster biplanes. They flew round the Schneider course, and they nearly succeeded in deafening everyone in Calshot by diving down on the station and banking over it.

The "Moor of Venice" was left afloat after Monti's flight, and was refuelled in the water. Cadringher then took her round the course, and when he had finished Sergt.-Maj. Agello did the same. The Italian motor boats were not launched, so British boats attended to the Macchi after a landing. On the other hand, Italian mechanics are anxious to help in wheeling out the British machines. The feeling between the two teams is excellent.

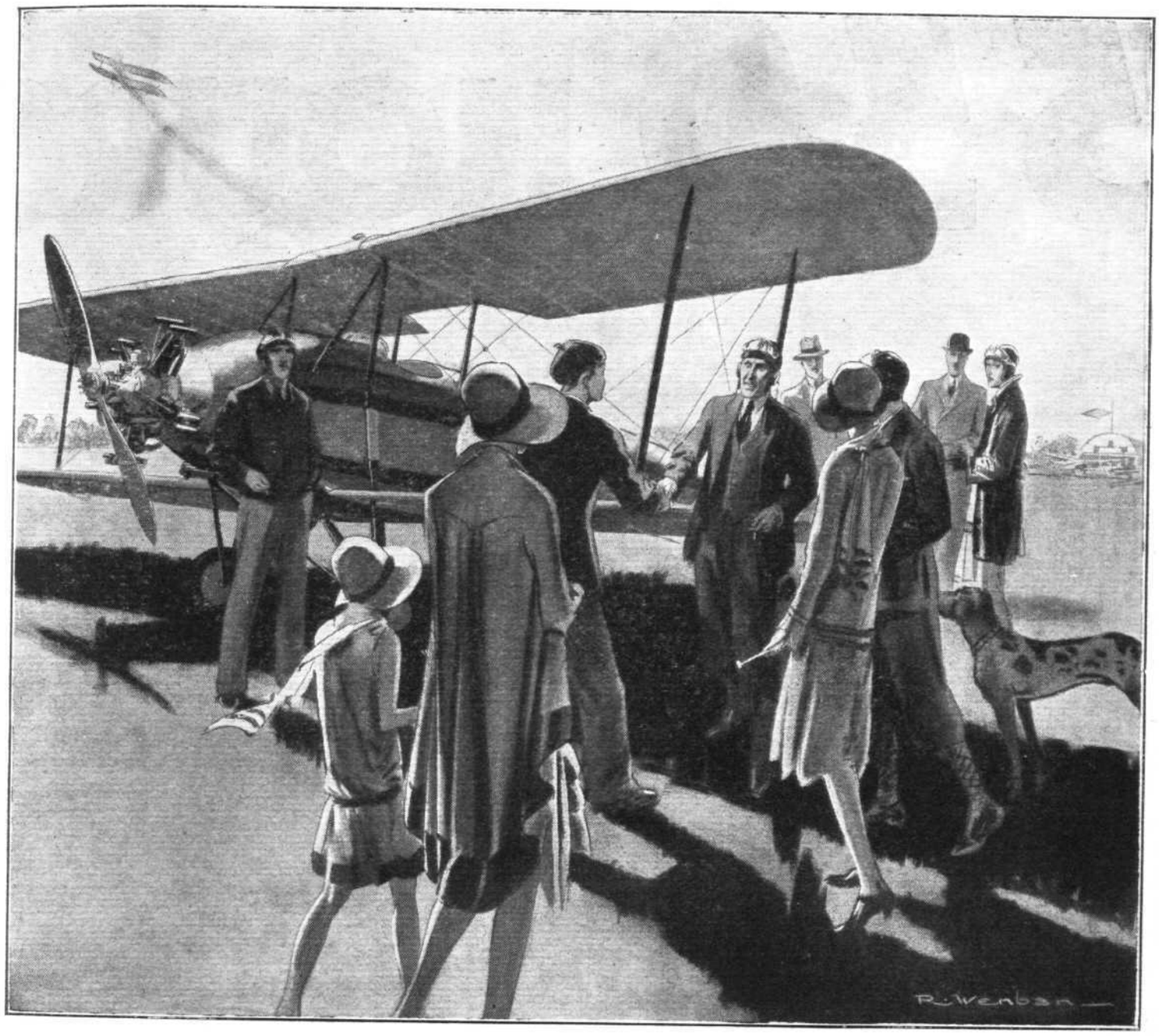
In the evening the wind began to get up again. The Gloster Napier N.250 was put on a pontoon and towed across the Southampton Water. But conditions were not favourable, and she had to be brought home. A glowing red sunset ended a day full of exciting incidents.

Sunday, September 1.—Another very fine day with the wind too strong for high-speed flying until nearly sunset. The only incident in the morning was the arrival of H. S. Broad in the Amphibian Moth. He alighted on the water and then crawled up the slipway on his wheels without any assistance.

Interest centred on the work of the Italian airmen in the sheds. They have filled their own shed with seaplanes and have overflowed into the shed which flies the stars and stripes. Altogether they have seven seaplanes here, three Macchis 52 (one of them being Bernardi's record machine), two Macchis 67 with 18-cylinder broad arrow Isotta Fraschini engines, and one Fiat with Fiat engine. All these are low wing monoplanes. The Savoia with two Isotta engines, pusher and tractor is being erected.

Flights in the Gloaming.

About 7 p.m. both the Supermarine Rolls-Royce N.247 and the Gloster Napier N.250 were sent out on pontoons a long way in the direction of Lee-on-Solent. There was a long delay in the hopes of the water calming down, but at last Waghorn taxied out on the S.6. I believe he had a full load of petrol. I watched through binoculars from the top of Calshot Castle. Though the daylight was quite good when proceedings commenced, flames from the exhausts were frequently clearly visible. Each time Waghorn tried to open up his engine the machine refused to sit up on her steps, but dipped her tail much as she had done on the last attempt. Yet this time there was no leak in the float. The water, I heard afterwards, was very rough out there. The port wing was down, and the machine swung about when taxying. Time after time Waghorn tried to get her going, and watchers got rather uneasy. A black cloud was blowing up from the Needles, and the sun was sinking fast. At last Waghorn got the better of whatever was troubling him. He took a very long run and coaxed the machine into the air. Once she had come unstuck all went well, and Waghorn gave us a



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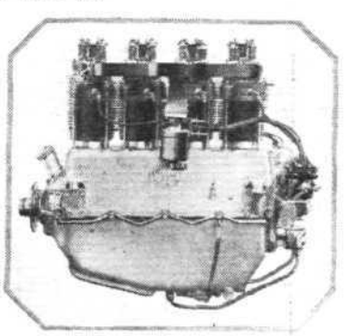
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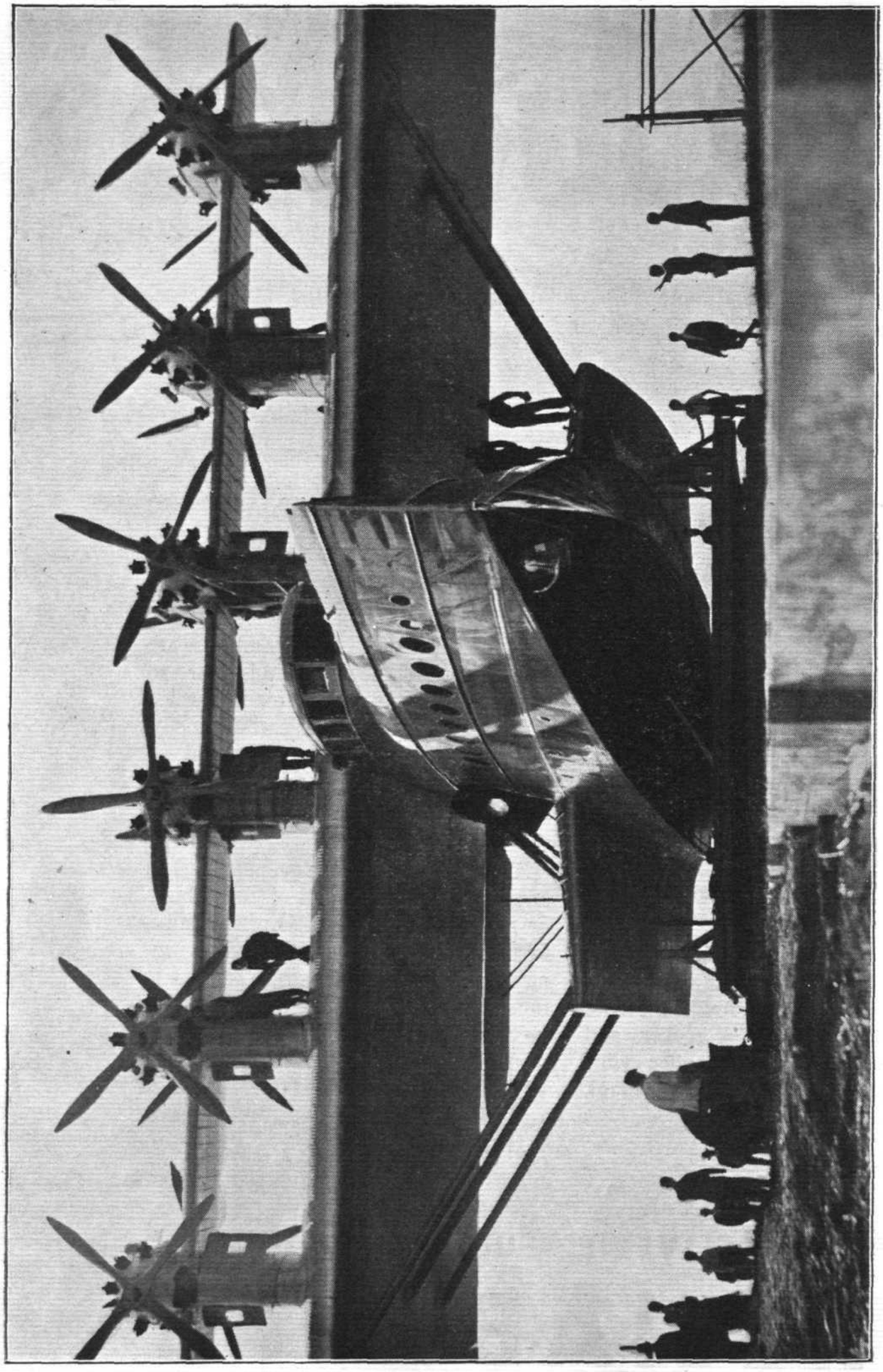
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fine exhibition. At times I think his throttle was just about full open and he showed us some of the real speed of the machine. When he had landed, we concluded that flying was over for the day. But in an incredibly short time Orlebar got the Gloster off the pontoon and into the air. She certainly takes off remarkably well. Orlebar did not open his throttle far, but he flew the machine a bit more freely than on his first flight. I have never seen a racer up with the sun so low. Each of these two flights lasted for 10 mins.

Monday, September 2.—The early morning was very misty but there was hardly any wind and by 10 a.m. Calshot was almost torrid. A good day for flying. Agello went round the course again on the Moor of Venice, and then Dal Molin took his place in the cockpit and taxied out, but was caught in the heavy wash of a steamer and his prop was slightly damaged. Macchi 67 was brought out, and the great Isotta was run up. Its deep musical note made a favourable impression.

Jay-Walking Seagulls.

Atcherley was taken out a long way in the Supermarine Rolls-Royce N.247 with, I believe, a full load of petrol. He took a very long run but got off without much difficulty. He gave us a very fine exhibition of flying, and it was noticed with gratification that he held his machine nice and low on the banking turns. He went round the course and landed after 20 mins. After Atcherley's flight a curious dent was found on one of his float struts and the fairing had partially stripped. The only feasible theory is that the machine had hit a bird. Fortunately no damage was done to the petrol and water pipes. A new fairing is being made for the strut. Seagulls in the air are much like cows on a road. The latter decline to interest themselves in the horn of an approaching car, and the birds pay scant attention to the fearsome noise of an approaching seaplane. They are veritable jay-walkers, and it is a wonder that there are not more collisions.

Then Stainforth went up on one of the Gloster biplanes and evidently enjoyed himself. I think he has noted some mark on one of the Calshot sheds, and puts the tip of his port wing just over it as he goes round in a vertical bank. It seems to be his favourite amusement. Meantime the modifications required after last night's flight were carried out on the Gloster Napier.

At 2 p.m. D'Arcy Greig went up in a Gloster biplane and stayed up about forty minutes. Then at 5.30 Waghorn had a practice flight on a biplane, and Dal Molin went up for his first flight in the Moor of Venice. The impression got about that he had damaged a float, and the speed boats got ready for emergencies when he glided in to land. His landing was surprisingly bumpy for a pilot of such merit, but the floats stood it all right. One small hole was afterwards found.

D'Arcy Greig in the Gloster-Napier 6

Orlebar is now satisfied with his tests of the Gloster-Napier VI, and has handed it over to D'Arcy Greig. His first flight this evening was quite an event in the history of Schneider training, for hitherto our record holder had not been up in one of this year's racers. It was nearly 6 p.m. before the indefatigable toilers of the Gloster and Napier teams had finished their work and Mr. Warner had passed the machine for flight. If some one could be found to write it, one of the greatest epics of the 1929 Schneider Contest would be the days and nights of toil put in by these working parties under Mr. Levick and Mr. Tallyn. Occasionally, one of them will be found snatching half an hour of sleep in the most uncomfortable position, but so long as there is a job of work to be done they are all merry and bright.

Finally, after Greig had received Orlebar's final advice, the N.250 was lowered down the slipway. No pontoons or tow boats were used, but the pilot taxied straight out and turned into wind. The Gloster was doubtless light, but even so her short take-off again made everyone open their eyes. I made it 18 seconds. Greig flew with absolute confidence from the first. He climbed as he circled over the Solent, and then as he headed towards us down wind (the wind was southerly) the trail of smoke from his exhaust showed that he had opened his throttle. For the first time we saw the brazen Gloster nearly full out, and her speed was a satisfying sight. Greig went along the three kilometre course up to Southampton and his time may have been taken to check the air-speed indicator. Then he did a circle over Calshot Castle, and as he banked his engine popped. "They've not got over that petrol feed trouble yet," remarked an experienced pilot beside me. But as the machine flattened out the engine picked up at once. Greig then flew all over the area at about half throttle, learning all about the machine. The engine was then almost silent and when the machine was lost in the haze it was out of hearing as well as out of sight. Then another straight run with the throttle open, this time up wind and noticeably slower. After 20 mins. Greig landed, rather fast.

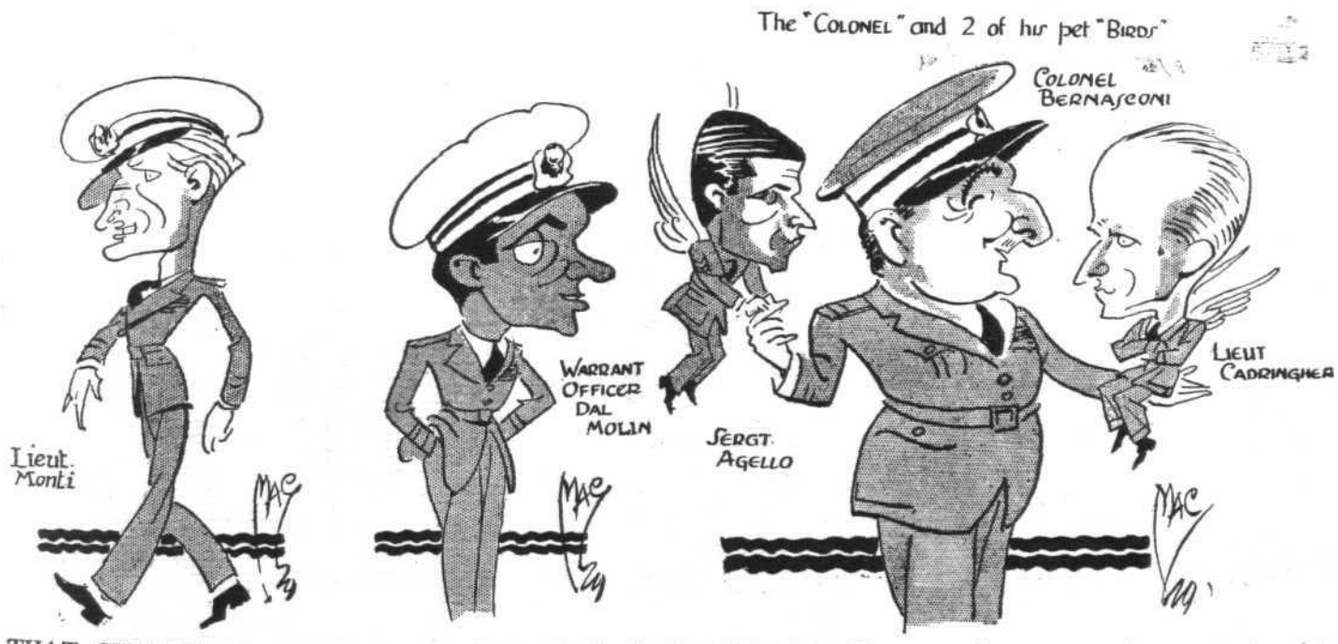
During the day the Isotta Fraschini in one Macchi 67 was run up several times. The weird twin-engined Savoia gradually took shape in the shed. It looks as if the pilot must have a bank of cylinders resting on each knee.

Tuesday, September 3.—The Prince of Wales visited Calshot to-day. He was received by Air Vice-Marshal Lambe and Group Captain Nanson, and all the pilots of both teams were presented to him. He walked through the sheds and the machines were explained to him by Sqdn.-Ldr. Orlebar and Lieut.-Col. Bernasconi. After lunch at the mess, the Prince was shown round the course in a Southampton.

The official lap measurements of the course are :—

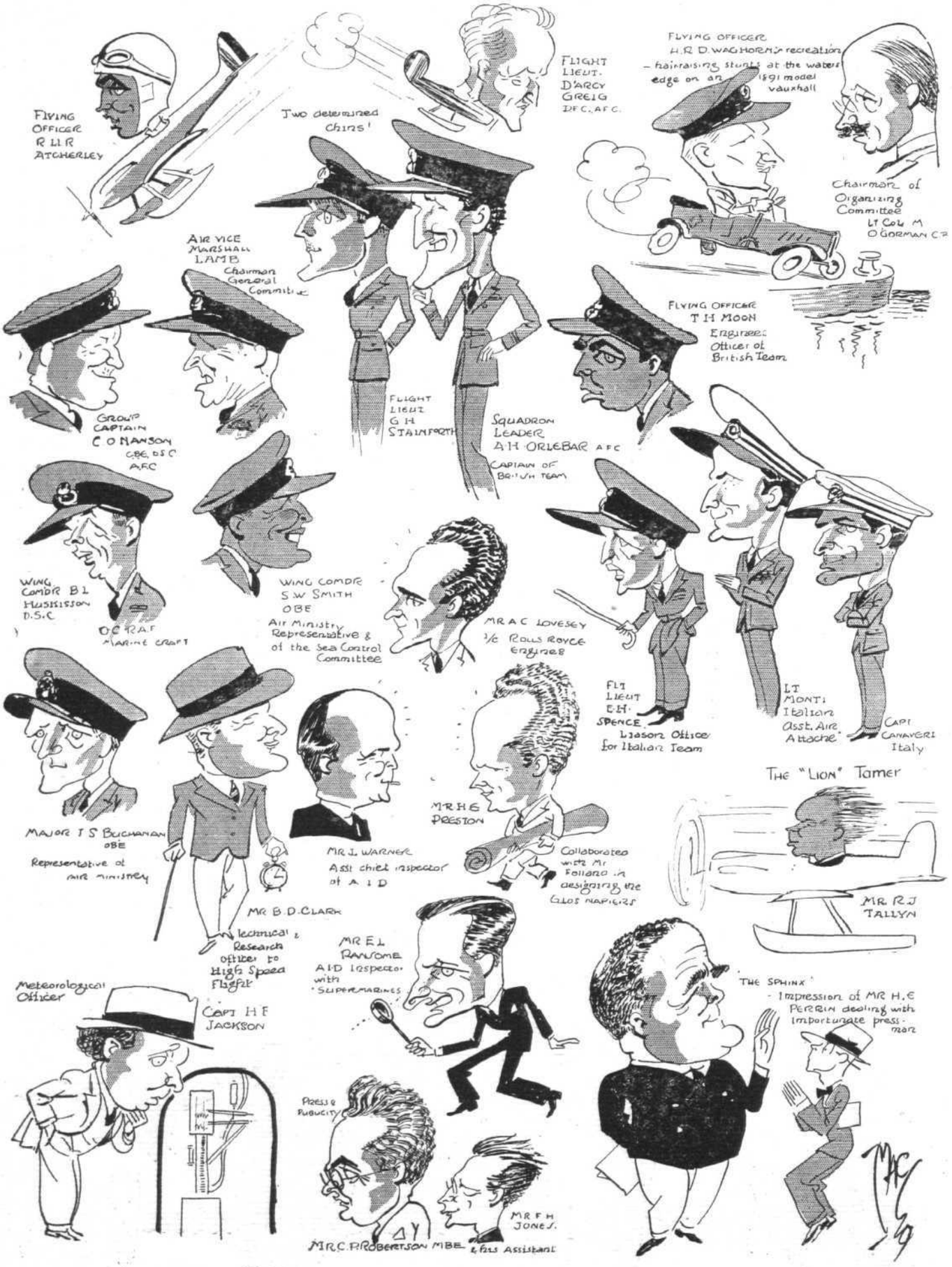
	Miles.	Kilos.
Ryde Pier to Seaview Pylon	3·29	5·3
Seaview Pylon to Hayling Pylon ..	5·15	8·29
Hayling Pylon to Southsea Pylon ..	5·19	8·35
Southsea Pylon to Cowes Pylon ..	10·21	16·43
Cowes Pylon to Ryde Pier	7·23	11·63
	31·07	50

Seven laps = 217·49 land miles = 350 kilos.



THAT CHALLENGING LOOK : Members of the Italian Schneider Team as they appear to our cartoonist
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SOME SCHNEIDER TROPHY PERSONALITIES



A few impressions by our artist

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SOUVENIR OF THE SCHNEIDER TROPHY CONTESTS

NOW, perhaps, the most important of all aviation events, the Schneider Trophy Contest, has not only constituted a practical demonstration of the remarkable progress and development of the seaplane during the past sixteen years, but it has also, we think, contributed towards that progress and development.

In the following pages we have endeavoured to record this by giving a short history, together with illustrations, of each contest since the first, held in 1913. The reader will also find—on the two following pages—diagrams illustrating the ever-increasing speed, horse-power, etc., of successive contests. As regards the speeds, we would like to draw attention here to one point, concerning the 1913 contest, and that is, it should be noted the winner's "official" speed of 45·75 m.p.h. was not his *actual* average speed over the course, which was about 61·5 m.p.h. As will be explained later, nearly an hour was added to the winner's time for the full course—owing to his not finishing properly—and when comparing the progressive speeds of the various contests we think this actual speed attained should be taken into account.

Before dealing with the contests held up to now, perhaps it may be of interest to give the origin of the Schneider Contest itself. On December 5, 1912, at the Gordon-Bennett Banquet of the Aero Club de France, it was announced that M. Jacques Schneider —a well-known French engineer and sportsman, himself an aviator—offered, through the Aero Club de France, an *objet d'art* in gold, silver and bronze, valued at 25,000 francs (£1,000) for an International competition to be called the "Coupé d'aviation maritime Jacques Schneider," or Schneider Trophy Contest, to be competed for by international challenge according to the regulations approved by the F.A.I. He also gave a further 25,000 francs to the promoting club for three successive annual contests, the first of which was to be held under the auspices of the Aero Club de France.

The F.A.I. forthwith drew up the rules for the contest, of which the following extracts may be of interest.

It was to be a speed contest over a course to be determined in advance, either in a straight line, broken line, or in a closed circuit, the distance to be not less than 150 sea miles. Each year (before January 31) the F.A.I. must draw up the rules for the annual contest, in accordance with the progress made in aviation. The contest was to be open to all types of aircraft (Class C seaplanes).

If no competitor completed the course, the Trophy would not be awarded, but would remain in the hands of the Club which held or had charge of it and which would again be entrusted with the organisation of the contest for the ensuing year—but the Club retaining the Trophy would not be considered as having won the contest a second

time. The Club that won the contest had to undertake the organisation of the succeeding contest in the country of that club. Should, however, the club hloding the Trophy be unable to organise the contest, the club previously holding the Trophy would be asked to undertake the organisation—or, failing this, the contest would be held in France.

The Club which had been victorious three times in five years became the holder of the Trophy, which would become its absolute property if it had not been challenged for five consecutive years. A challenging Club had to be recognised by the F.A.I., and each Club could enter three competitors each year and nominate a substitute for each competitor. Competitors and their substitutes had to be of the same nationality as the club affiliated to the F.A.I. entering them—or of the nationality of a country not represented on the F.A.I.

The Trophy had to be contested for each year between April 1 and November 15—the club holding the Trophy fixing the date before March 1. Should no competitor make a start within the stipulated time, the sporting officials decide if the contest be annulled or a fresh opportunity to start given. The expenses of carrying out the contest must be borne by the organising club.

The above rules may be taken as general to all the contests so far held, and only minor modifications have been, or are, made from time to time regarding distance of course, navigability tests and entrance fees, etc. Briefly, the navigability tests—which were introduced to ensure that the competing machines were practical, seaworthy craft and not just high-speed freaks—consisted of a preliminary flight over a specified distance, during which the machines had to make certain alightings and also taxi over portions of the course. Subsequently, a water-tightness test was introduced with a view to further ensuring that the competing machines were thoroughly seaworthy.

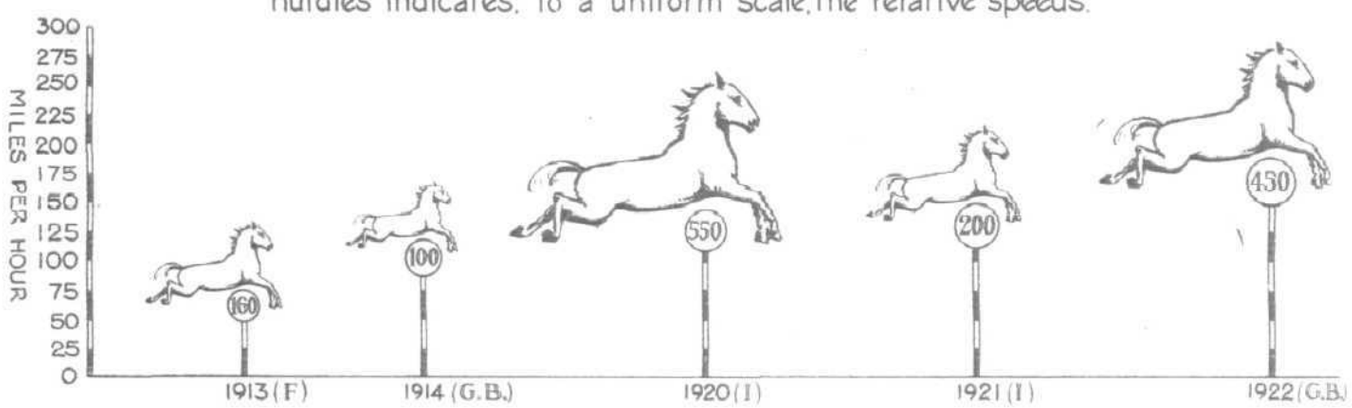
We give here a typical example of the navigability and water-tightness tests (those governing the 1926 contest), in order that the reader may understand their nature. These tests, of course, have occasionally been modified in minor details—those obtaining in this year's contest, together with the other regulations, are given in the concluding part of our Souvenir.

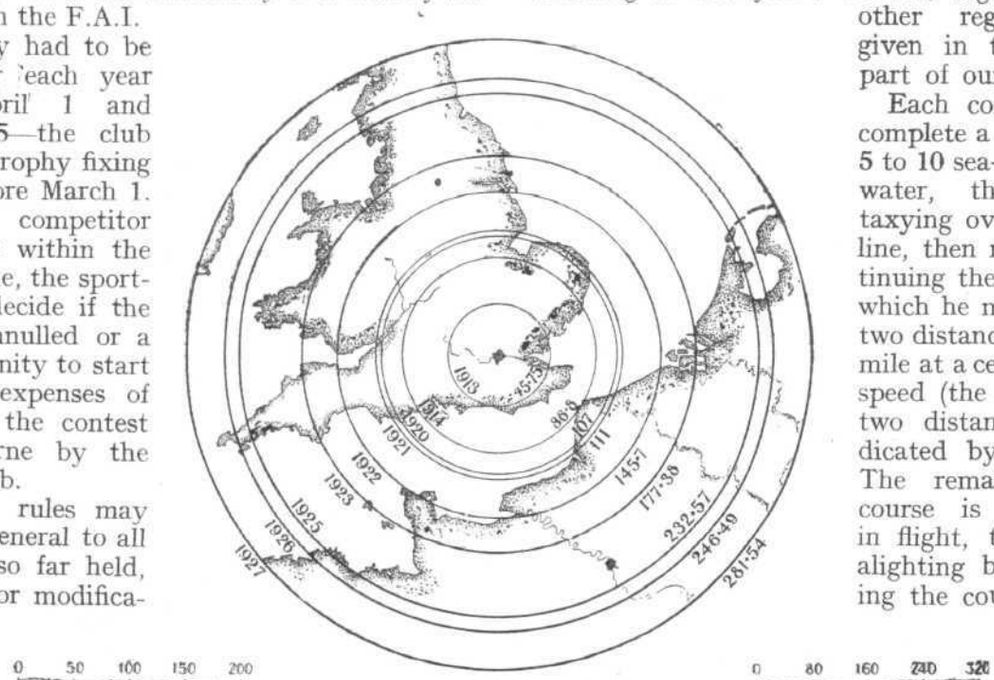
Each competitor must complete a course of from 5 to 10 sea-miles over the water, the competitor taxying over the starting line, then rising and continuing the course, during which he must taxy over two distances of half a sea mile at a certain minimum speed (the limits of these two distances being indicated by two buoys). The remainder of the course is then covered in flight, the competitor alighting before completing the course, and taxying over the finishing line.

After this, each machine

DIAGRAMMATIC REPRESENTATION OF INCREASE IN SPEEDS AND H.P. IN SCHNEIDER TROPHY CONTEST.

The figures in the circles refer to the power of the engine in the winning machine each year and the height of the hurdles indicates, to a uniform scale, the relative speeds.





THE CIRCLES IN THIS DIAGRAM REPRESENT THE DISTANCES, STARTING FROM LONDON, WHICH THE SCHNEIDER TROPHY CONTEST WINNERS, FROM 1913 TO 1927, COULD HAVE COVERED IN ONE HOUR.

must be moored to a buoy allotted to it, where it must remain, unattended, afloat for six hours.

THE SCHNEIDER CONTESTS AT A GLANCE

1913, April 16.—Monaco ; 150 sea-miles (280 km.), in 28 laps. M. Prevost (France), on a Deperdussin twin-float monoplane, 160-h.p. Gnome (air-cooled rotary). 45·75 m.p.h. (72·6 k.p.h.).

1914, April 20.—Monaco : 150 sea-miles (280 km.), in 28 laps. Howard Pixton (Great Britain), on a Sopwith twin-float biplane, 100-h.p. Mono-Gnome (air-cooled rotary). 86·8 m.p.h. (139·7 k.p.h.).

1919, Sept. 10.—Bournemouth ; 200 sea-miles (370·4 km.), in 10 laps. Contest annulled owing to fog. Janello (Italy), on a Savoia S.13 biplane flying-boat, 250-h.p. Isotta Fraschini, alone flew over the course, but was not "observed."

1920, Sept. 19-21.—Venice ; 202 sea-miles (375 km.), in 10 laps. L. Bologna (Italy), on a Savoia S.19 biplane flying-boat, 550-h.p. Ansaldo (water-cooled "V"). 107 m.p.h. (172·5 k.p.h.).

1921, Aug. 6-7.—Venice ; 200 sea-miles (370·4 km.), in 10 laps. De Briganti (Italy), on a Macchi VII biplane flying-boat, 200-h.p. Isotta Fraschini (water-cooled vertical). 111 m.p.h. (178·5 k.p.h.).

1922, Aug. 10-12.—Naples : 200·2 sea-miles (370·7 km.), in 13 laps. H. C. Biard (Great Britain), on a Supermarine biplane flying-boat, 450-h.p. Napier "Lion" (water-cooled "broad-arrow"). 145·7 m.p.h. (234·5 k.p.h.).

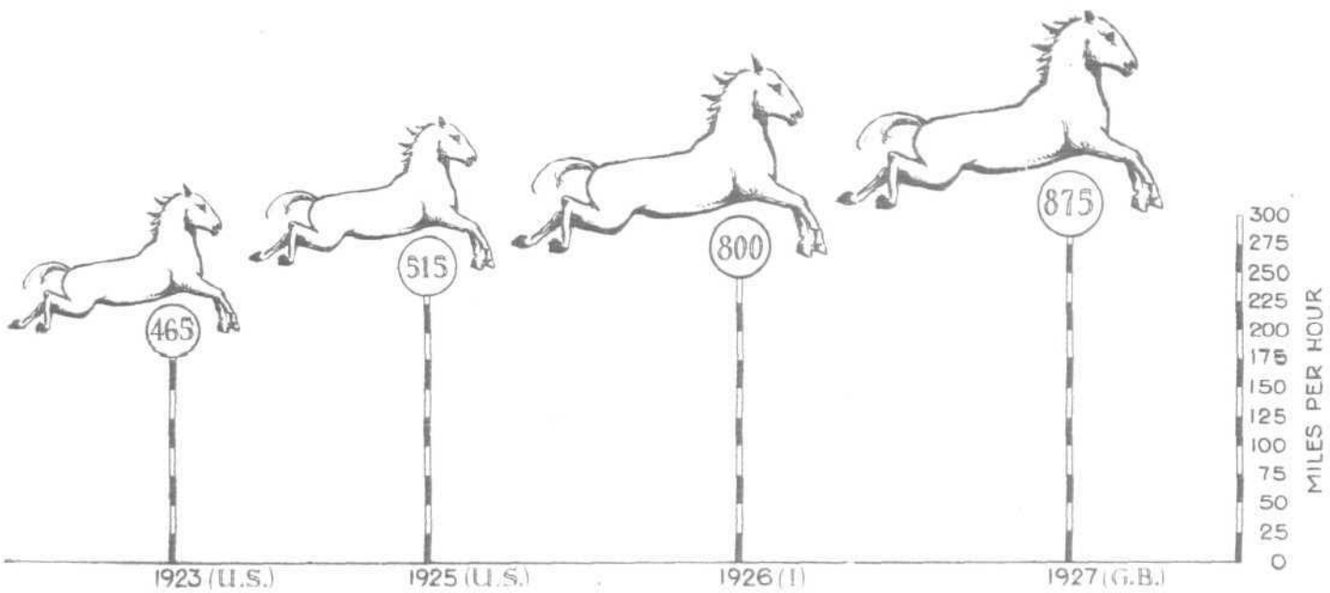
1923, Sept. 27-28.—Cowes : 186 sea-miles (344·5 km.), in 5 laps. D. Rittenhouse (U.S.A.), on a Curtiss Navy C.R.3 twin-float biplane, 465-500 h.p. Curtiss D-12 (water-cooled "V"). 177·38 m.p.h. (285·4 k.p.h.).

1924.—No contest.

1925, Oct. 23-26.—Baltimore : 188·6 sea-miles (350 km.), in 7 laps. J. Doolittle (U.S.A.), on a Curtiss Army R.3C.2 twin-float biplane, 600-h.p. Curtiss V-1400 (water-cooled "V"). 232·57 m.p.h. (374·2 k.p.h.).

1926, Nov. 13.—Hampton Roads : 188·6 sea-miles (350 km.), in 7 laps. De Bernardi (Italy), on a Macchi twin-float monoplane, 800-h.p. Fiat (water-cooled "V"). 246·496 m.p.h. (396·6 k.p.h.).

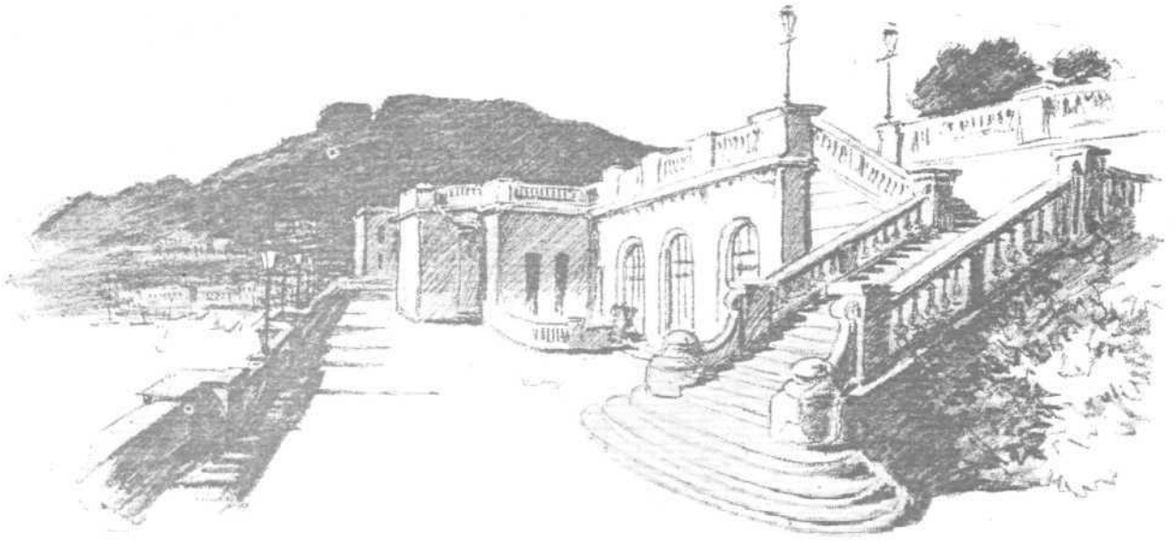
1927, Sept. 25-26.—Lido, Venice : 188·6 sea-miles (350 km.), in 7 laps. S. N. Webster (Great Britain), on a Supermarine S.5 twin-float monoplane, Napier "Lion" (water-cooled "broad-arrow"). 281·656 m.p.h. (450·64 k.p.h.).





WINNER AND DONOR : HOWARD PIXTON, WINNER OF THE SECOND SCHNEIDER TROPHY CONTEST IN 1914, IS CONGRATULATED BY M. JACQUES SCHNEIDER, THE ORIGINATOR OF THIS NOW CLASSIC AIR EVENT.

1913



MONACO

THE organisation of the first Contest for the Jacques Schneider Trophy was placed in the hands of the Aero Club de France, and it was decided to hold it at Monaco during the International Hydro Aeroplane Competitions which were taking place there from April 3 to 16.

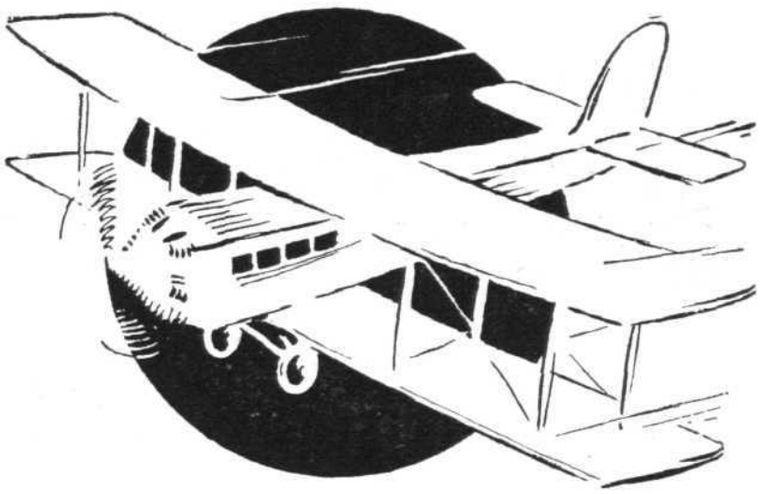
Only two countries were represented in this first contest—France and America, Great Britain, although possibly in a position at that time to produce a suitable machine for the contest, did not enter. America was represented by C. T. Weymann, on a Nieuport twin-float monoplane fitted with a 100-h.p. Gnome air-cooled rotary engine. France, however, sent in several entries, including two Breguets, two Nieuports, two Deperdussins, one Borel, and one Morane.

The course consisted of 28 laps of 10 km. each, giving a total distance of 280 km. (150 sea-miles). Previous to the actual contest, the teams went through the eliminating tests, during which there were a few mishaps—the Borel monoplane, for instance, being badly damaged.

On the day of the Contest itself, April 16, M. Prevost, the well-known French pilot, was the first to start, on a Deperdussin twin-float monoplane, fitted with a 160-h.p. Gnome engine. He succeeded in completing the full 28 laps, but unfortunately, at the end of the last he did not fly over the finishing line, and as—for some reason or the other—he was not informed immediately of this, nearly an hour passed before he went out again to rectify his error.

His actual time for the course was 2 hrs. 50 mins. 47 secs., but his corrected "official" time was 3 hrs. 48 mins. 22 secs., and his average speed 45·75 m.p.h. (72·6 k.p.h.).

No other competitor completed the full course, but Weymann (America) on the Nieuport, flew well until a broken oil pipe forced him down when but three laps from home. It was hard luck, as he was making faster time than Prevost—his time for the first 200 kms. being 1 hr. 59 mins. 23 secs., whilst Prevost took 2 hrs. 2 mins. 29 secs. for the same distance. Of the other French competitors, R. Garros, on his 80-h.p. Morane monoplane, was unable to start, and Dr. Espanet, on a Nieuport, retired after completing seven laps. The first Schneider Contest was therefore won by Prevost for France.



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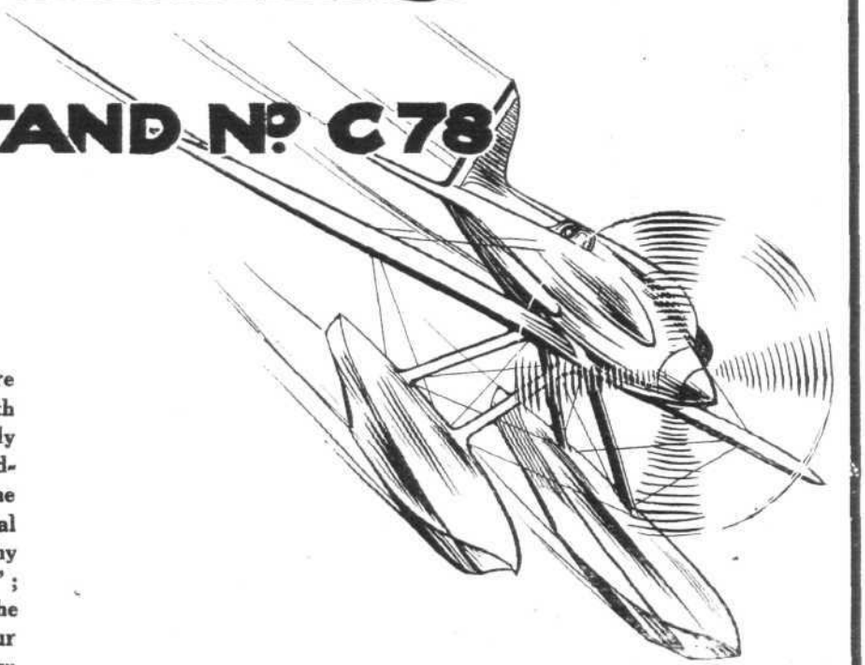
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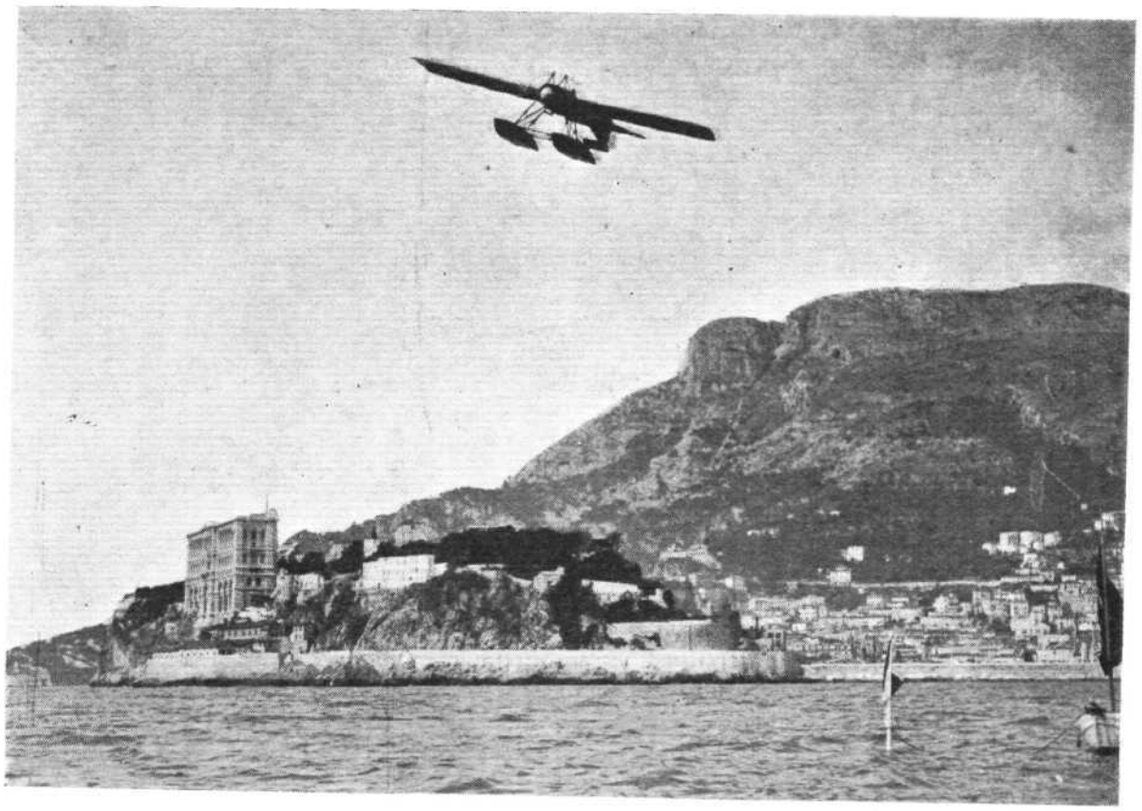
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THE FIRST SCHNEIDER TROPHY WINNER : M. PREVOST, ON THE DEPERDUSSIN MONOPLANE (160 H.P. GNOME), WINS THE TROPHY FOR FRANCE, AT MONACO, IN 1913, AT 45·75 M.P.H.



A 1913 COMPETITOR : THE BOREL MONOPLANE, FITTED WITH A 100 H.P. GNOME, AND PILOTED BY M. CHEMET, WAS UNFORTUNATELY ELIMINATED IN THE PRELIMINARY TESTS.



THE NIEUPORT MONOPLANE: TWO OF THESE SEAPLANES TOOK PART IN THE 1913 SCHNEIDER CONTEST, ONE PILOTED BY DR. ESPANET (FRANCE), AND THE OTHER BY C. T. WEYMANN (U.S.A.).



M. PREVOST: ONE OF FRANCE'S BEST-KNOWN PILOTS, WHO WON FOR HER THE TROPHY IN THE FIRST 1913 CONTEST.

1914



MONACO

FRANCE, according to the rules, having won the first contest, she had to undertake the organisation of the second, which was once more held at Monaco the following year, on April 20, 1914. The course was as before, that is, 28 laps of 10 km. each, or 280 km. (150 sea miles). Each competitor had first to cover one round of the course, in which he had to taxi across the line before taking off, then make two descents on the water at specified points, take off again and proceed in full flight, across the starting line, for the complete 150 sea miles.

This contest really was an international one, for five countries were represented, entries having been sent in by Great Britain, France, Germany, Switzerland, and America. Great Britain was represented by Howard Pixton piloting a small Sopwith twin-float seaplane, fitted with a 100-h.p. Mono-Gnome, and Lord Carbery, on a Morane Saulnier monoplane.

The French team comprised Dr. Espanet, on a Nieuport monoplane (160-h.p. Gnome), M. Levasseur on a similar machine, and M. Garros, on a Morane. Germany was represented by E. Stoeffler, on an Aviatik, Switzerland by M. Burri on a F.B.A. flying boat (100-h.p. Gnome), and America by C. T. Weymann on a Nieuport, and Thaw on a Deperdussin.

During the eliminating trials for the French team, Dr. Espanet completed four laps of the course in 23 mins. 50$\frac{4}{5}$ secs., and was placed first, while Levasseur did two laps and Garros one lap, and were accordingly placed second and third, respectively. Prevost and Janoir, on Deperdussin monoplanes, and Brindejonc on a Morane, were placed as reserves.

On the day before the contest, Stoeffler crashed his machine, as did Lord Carbery, but the latter arranged to fly Janoir's Deperdussin.

Shortly after the contest opened, at 8 a.m. on April 10, Levasseur and Espanet started off, successfully accomplishing their preliminary tests in approximately 9 mins., followed by Pixton and Burri. The latter took 6 mins. for his preliminary tests, but Pixton completed his in 4$\frac{1}{2}$ mins. in fine style.

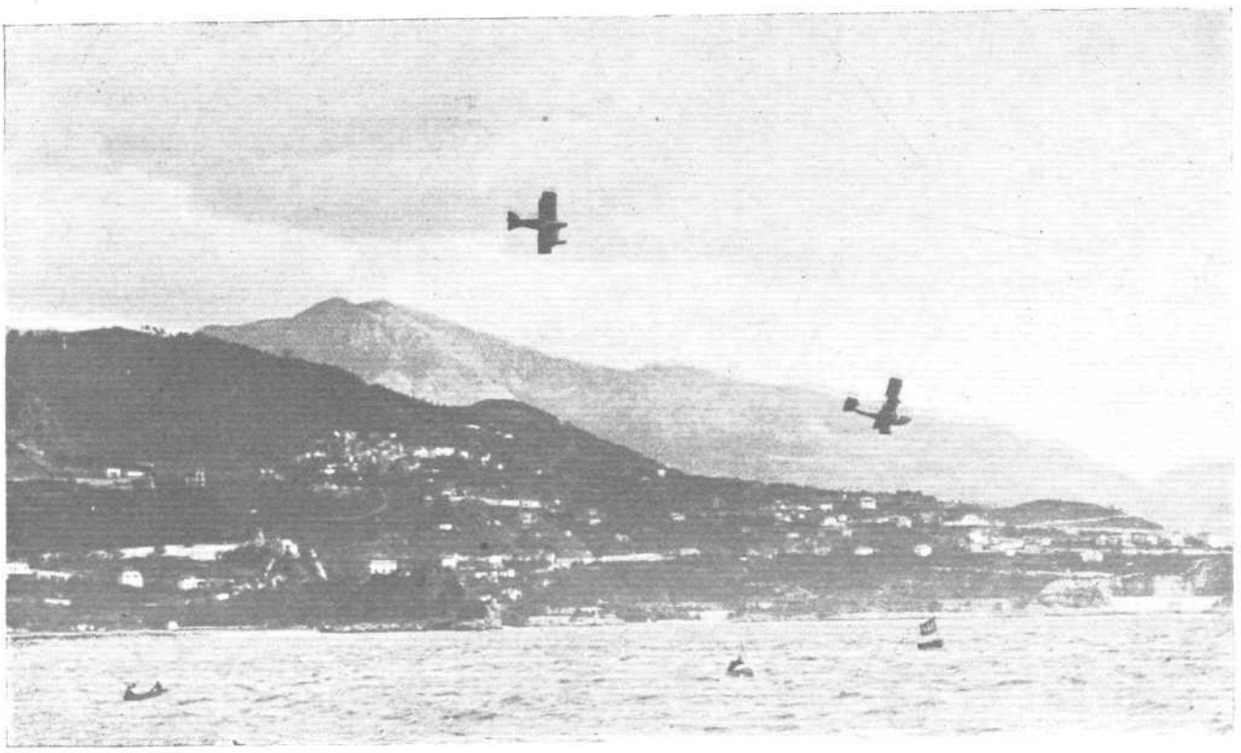
The competitors' times for the first five laps (50 km.) were :—Pixton, 20 mins. 57 secs. ; Burri, 29 mins. 17 secs. ; Espanet, 28 mins. 13 secs. ; Levasseur, 30 mins. 5 secs. At 10 laps (100 km.) the position was :—Pixton, 41 mins. 33 secs. ; Burri, 57 mins. 5$\frac{1}{5}$ secs. ; Espanet, 51 mins. 53 secs. ; Levasseur, 54 mins. 46 secs. At 15 laps (150 km.) Pixton, 1 hr. 2 mins. 31 secs. ; Burri, 1 hr. 27 mins. 36$\frac{2}{5}$ secs. ; Espanet, 1 hr. 16 mins. 47 secs. ; Levasseur, 1 hr. 22 mins. 56 secs.

This contest resulted in a splendid victory for Great Britain, Howard Pixton completing the course in 2 hrs. 0 mins. 16 secs., his average speed being 86·8 m.p.h. (139·7 k.p.h.). The only other competitor to finish the course was Burri, whose time was 3 hrs. 24 mins. 16 secs. Lord Carbery had to retire on the second lap, while Espanet completed sixteen laps, and his fellow countryman, Levasseur, seventeen laps before they had to retire. Garros, the third French representative, did not start. The two Americans, Weymann and Thaw, also failed to complete the course.

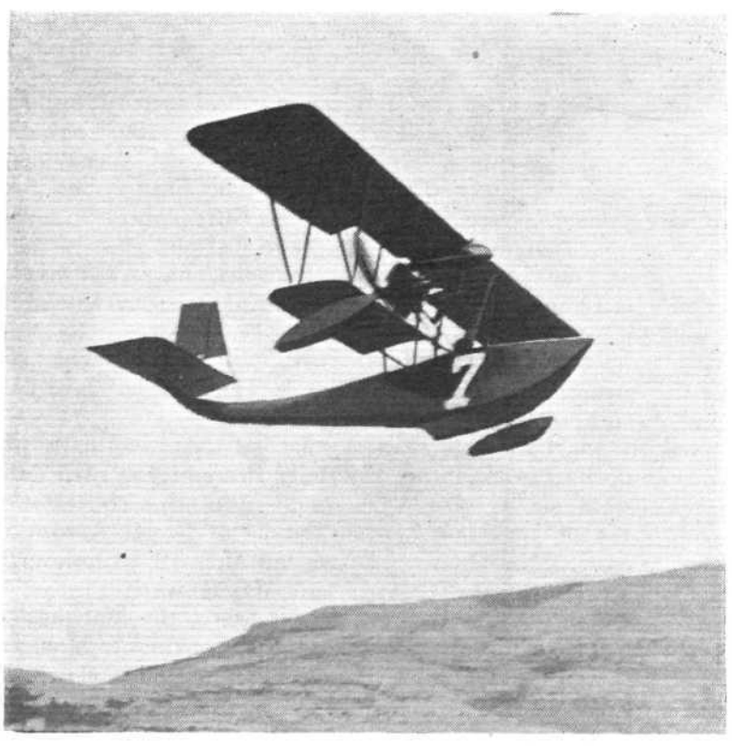
Pixton's splendid victory passed practically unnoticed in England, the daily Press giving little more than short paragraphs concerning the contest and Pixton's achievement. True, the Royal Aero Club gave an informal luncheon, on May 12, in honour to Mr. T. O. M. Sopwith and Mr. Howard Pixton, at which the Chairman of the R.Ae.C., the Marquess of Tullibardine, presided. On the Continent, however, the British victory created a big impression, especially in France, where it was considered to be a serious blow to French aviation.

THE WINNING BRITISH ENTRY : THE SMALL TWIN-FLOAT SOPWITH BIPLANE, FITTED WITH A 100-H.P. MONO-GNOME. IT WAS A FORERUNNER TO THE SOPWITH SEA-SCOUTS, USED EXTENSIVELY IN THE GREAT WAR.

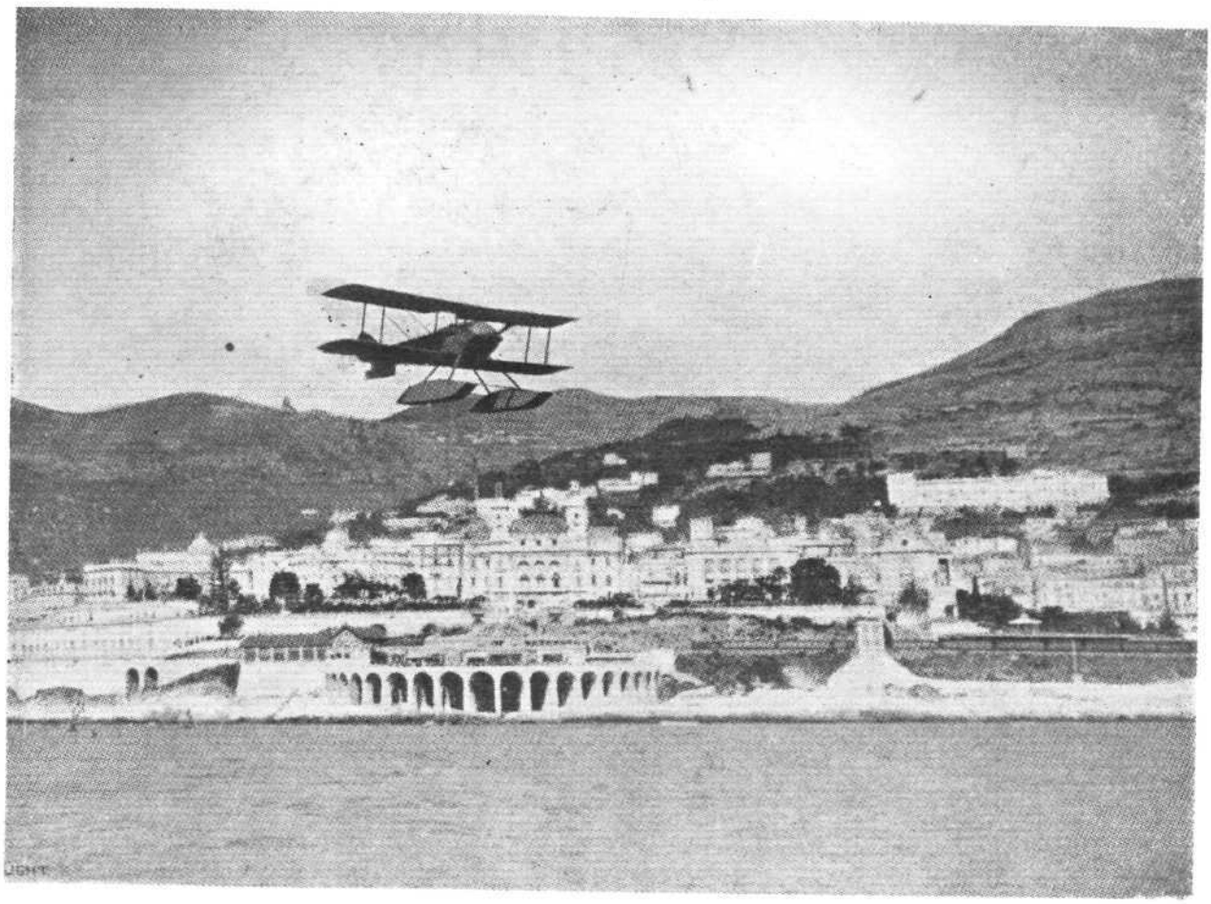




BRITAIN V. SWITZERLAND : HOWARD PIXTON, ON THE SOPWITH, THE WINNER, PASSING M. BURRI (SWITZERLAND) ON THE F.B.A. FLYING-BOAT IN THE 1914 CONTEST. THEY WERE THE ONLY TWO TO COMPLETE THE COURSE.



THE RUNNER-UP : THE F.B.A. FLYING-BOAT, FITTED WITH A 100-H.P. GNOME, ON WHICH M. BURRI GAINED SECOND PLACE FOR SWITZERLAND.



THE SOPWITH BIPLANE, PILOTED BY HOWARD PIXTON, WINNING THE SECOND SCHNEIDER TROPHY CONTEST FOR GREAT BRITAIN. HIS AVERAGE SPEED FOR THE COURSE WAS 86·6 M.P.H.



THE FIRST BRITISH SCHNEIDER VICTOR: C. HOWARD PIXTON, WINNER OF THE 1914 SCHNEIDER TROPHY CONTEST, THE FIRST ONE AT WHICH GREAT BRITAIN WAS REPRESENTED.

1915-1918



THE WAR

OWING to the War, 1914–1918, no Schneider Trophy Contest was held from that of 1914 to the first peace year, 1919, for obvious reasons. The aircraft industries of the various countries were engaged upon producing aircraft for vastly different purposes. Although the quest for speed was quite as insistent, qualities other than speed were as urgently required, and it is a matter of some difficulty to answer the question which will very naturally be asked, i.e., "Did the War advance or retard the progress and development of speed machines?"

If one examines the history of the Schneider Trophy Contest from 1919 to the present time, it becomes fairly obvious that engine power has played a very important part in making possible the almost fantastic speeds reached by modern racing seaplanes. Very reliable figures concerning the powers actually developed by engines in the Schneider Trophy Contests are somewhat difficult to come by, but if one begins with the year 1923, i.e., the year when the contest was held at Cowes, and when, for the first time since 1914, the winner was flying a twin-float tractor machine, as distinct from the flying boats that had previously been used, it is seen that Rittenhouse had in his Curtiss-Navy Racer a Curtiss engine which, it may be assumed, developed at least 500 h.p. His speed was 177·4 m.p.h. In 1927 Webster won the Contest at Venice with a speed of 281·7 m.p.h., his Napier "Lion" racing engine developing probably some 900 h.p. Thus it is seen that engine power has, at least during the last several years, counted for very much in the Contest.

The view has often been advanced that the war period, instead of tending to advance the "efficiency" of aircraft (whatever that may mean), actually retarded progress because the ever-increasing performance demanded was obtained, during the war, by "piling on more and more power"—in other words, by force instead of by refinement in aerodynamic design. However that may be, in connection with the Schneider Trophy Contest it must, we think, be held that the War actually assisted progress because the War did result in the production of much more powerful engines than we had previously possessed.

In other respects it is doubtful if the War "did anything for aviation." Wing, fuselage, and float design are almost entirely of post-War development, as is also the use of supercharging.

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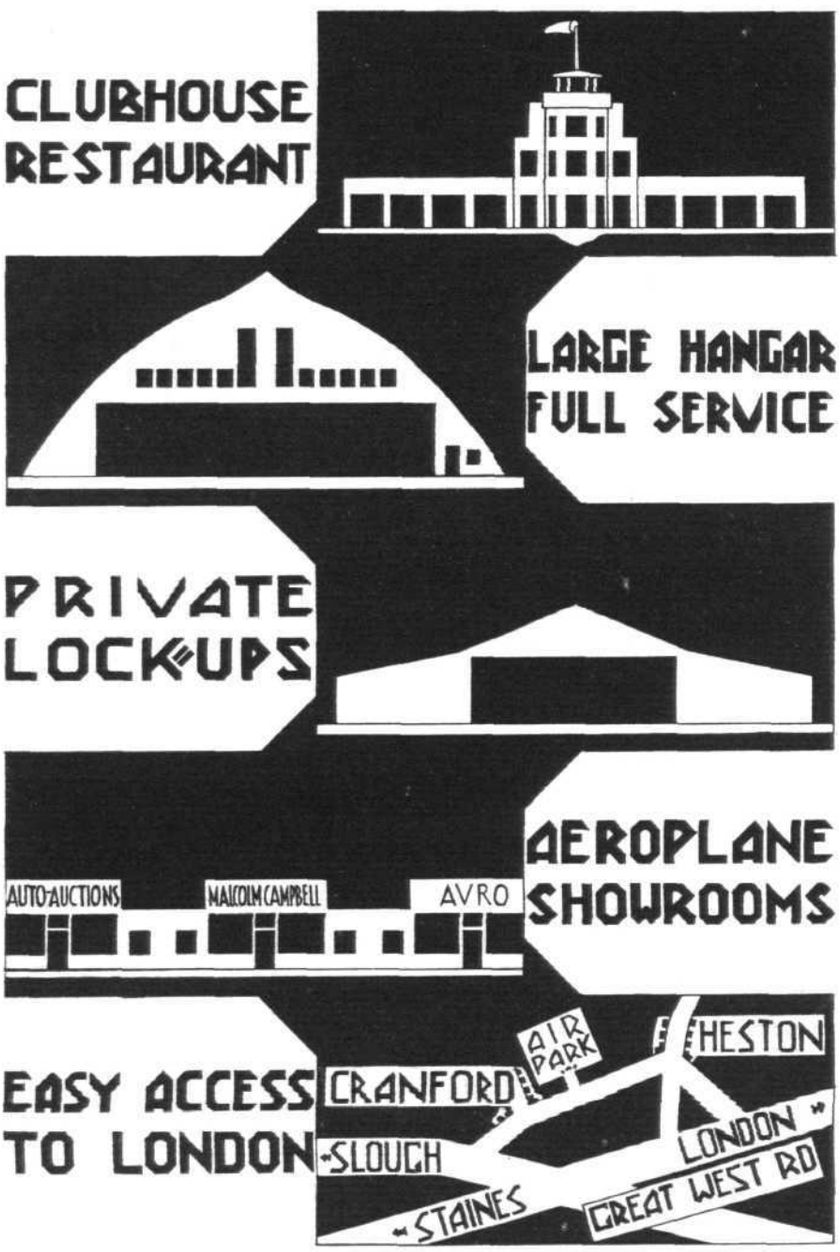




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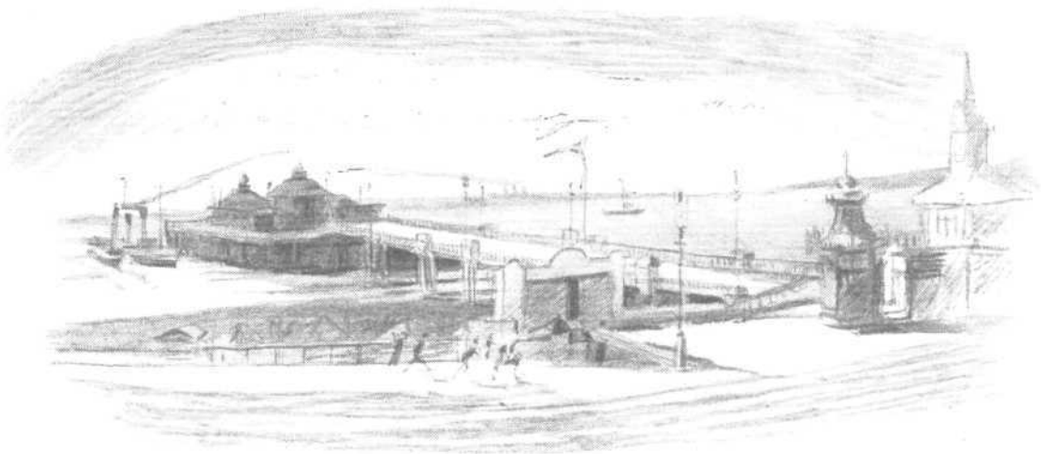
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1919



BOURNEMOUTH

AFTER an interval of five years, the war clouds having blown away, the Third Schneider Trophy Contest was held in 1919 in England—Great Britain, as the then holder of the Trophy, having the organisation in hand. The Royal Aero Club decided on a course off Bournemouth, extending from the latter place to Swanage, thence to Hengistbury Head, near Christchurch, and back to Bournemouth. This triangular course was 20 sea-miles, and as it had to be covered ten times, the total distance was 200 sea-miles—50 miles longer than in the previous contest in 1914.

The Royal Aero Club received a good entry, representing Great Britain, France and Italy, and although there were a few mishaps previous to the contest and Belgium and Spain withdrew their entries some time before, everything showed promise of a really successful contest on September 10—the day fixed for the event. It must be stated at the outset, however, this was far from being so, and the Third Schneider Trophy Contest must be recorded as something in the nature of a fiasco, as will be seen later. Eight entries were received by the Royal Aero Club, as follows :—

Great Britain : Avro " Puma " twin-float biplane, 240-h.p. Siddeley " Puma," pilot, Capt. Hammersley ; Fairey twin-float biplane, 450-h.p. Napier " Lion," pilot, Lieut.-Col. Vincent Nicholl ; Sopwith twin-float biplane, 450-h.p. Cosmos " Jupiter," pilot, H. G. Hawker ; Supermarine " Sea Lion," biplane flying boat, 450-h.p. Napier " Lion," pilot, Sqdn.-Com. B. D. Hobbs.

France : Nieuport, 300-h.p. Hispano-Suiza, pilot M. Casale ; Nieuport, 300-h.p. Hispano-Suiza, pilot, M. Malard ; Spad, 300-h.p. Hispano-Suiza, pilot, M. Sadi Lecointe. All the French machines were twin-float tractor biplanes.

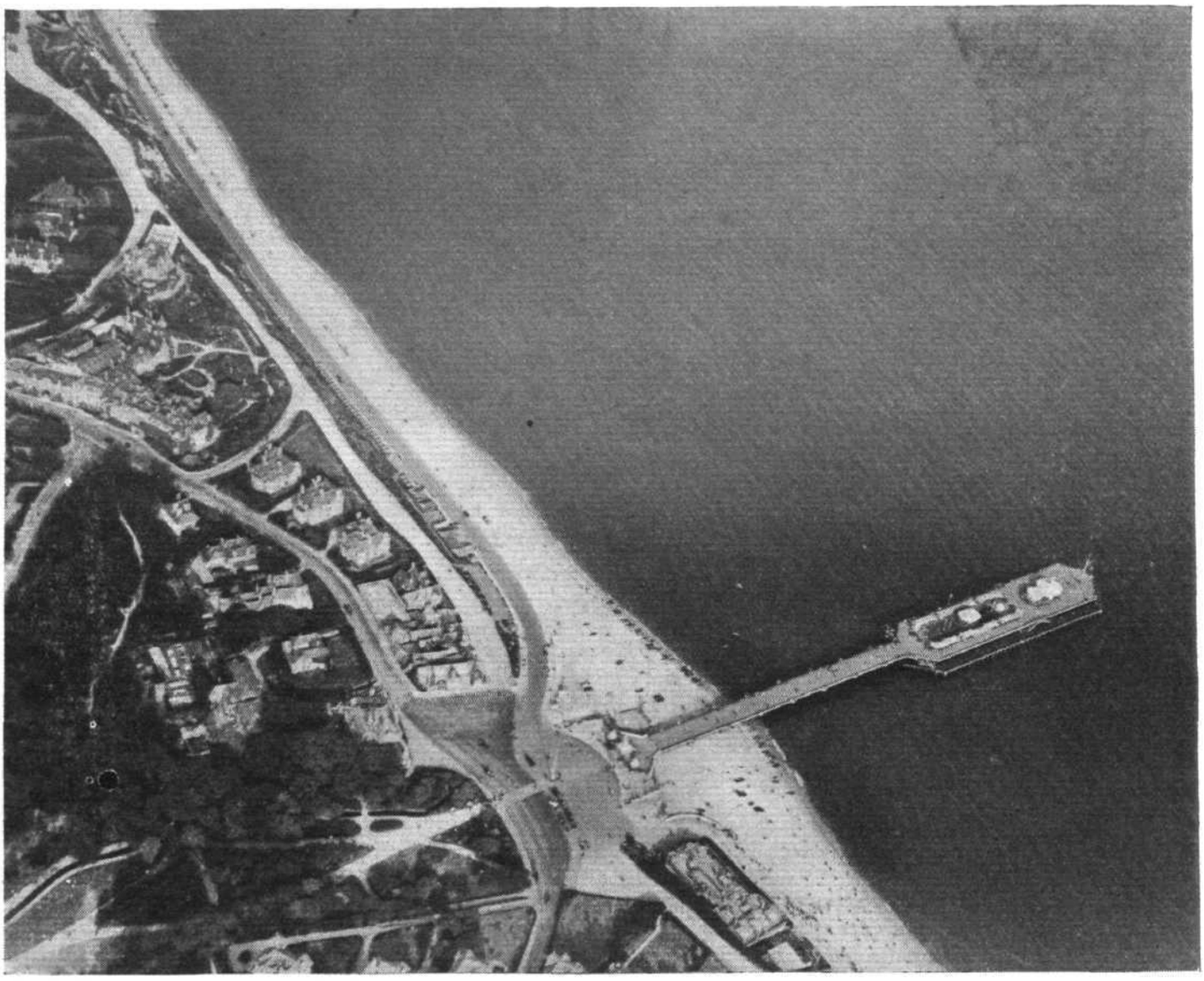
Italy : Savoia S-13 biplane flying-boat, 250-h.p. Isotta Fraschini, pilot Janello.

As in 1914, competitors had to make two alightings during a preliminary round of the course, and then proceed to fly the complete course.

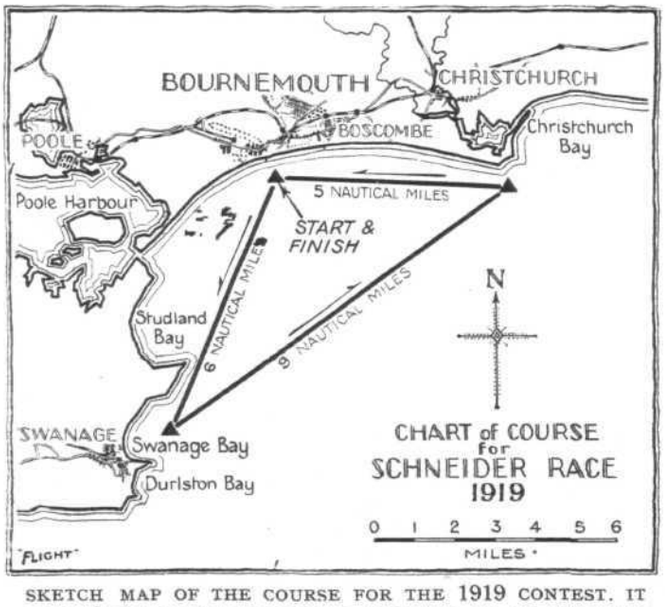
The French team met with early misfortune, for the two Nieuports were crashed during trial flights over the Seine. A spare machine was flown by Casale from France to Cowes, but on arriving at Cowes the machine struck a buoy and was damaged. It was salved, however, and taken to the Saunders workshops where, by desperate efforts on the part of the Saunders and Nieuport mechanics, the machine was fitted with a new engine and practically rebuilt by the 10th, and ready for the fray. A third Nieuport set out from France, but this came down in the Channel and was taken back to Havre.

On September 8 eliminating trials were held at Cowes to decide which three machines of the four British entries should take part in the contest. As a result the three selected were the Fairey, the Sopwith and the Supermarine. The Avro gave way to the Supermarine, which, although not so fast as the Avro, gained points chiefly as regards getting off and alighting.

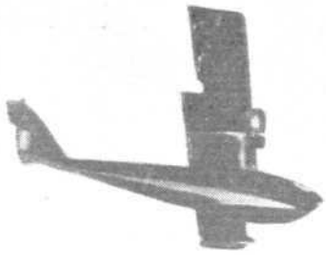
The day of the " race " opened with a heavy mist hanging over Bournemouth, which blotted out, not only the turning points at Swanage and Christchurch, but the Bournemouth and Boscombe piers as well. By midday the weather cleared a little, and some of the competing machines arrived from Cowes. The first of these was the Fairey, followed by the Spad, the Savoia, and the Supermarine. The Sopwith came along a little later, and there only remained the



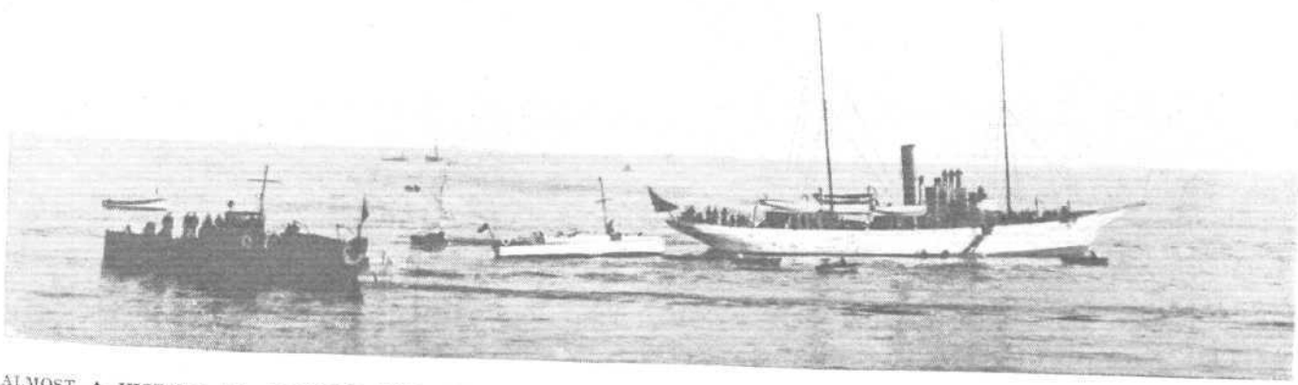
AN AERIAL VIEW OF BOURNEMOUTH PIER, WHICH WAS THE STARTING AND FINISHING POINT FOR THE 1919 SCHNEIDER TROPHY CONTEST. (*FLIGHT Photo.*)



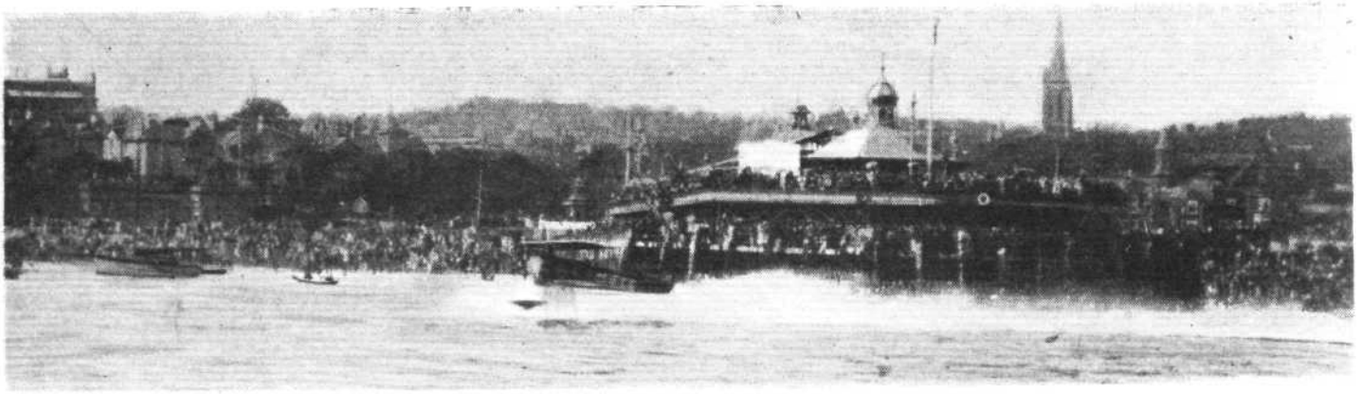
SKETCH MAP OF THE COURSE FOR THE 1919 CONTEST. IT WAS 20 SEA-MILES IN LENGTH AND HAD TO BE COVERED TEN TIMES, GIVING A TOTAL DISTANCE OF 200 SEA-MILES.

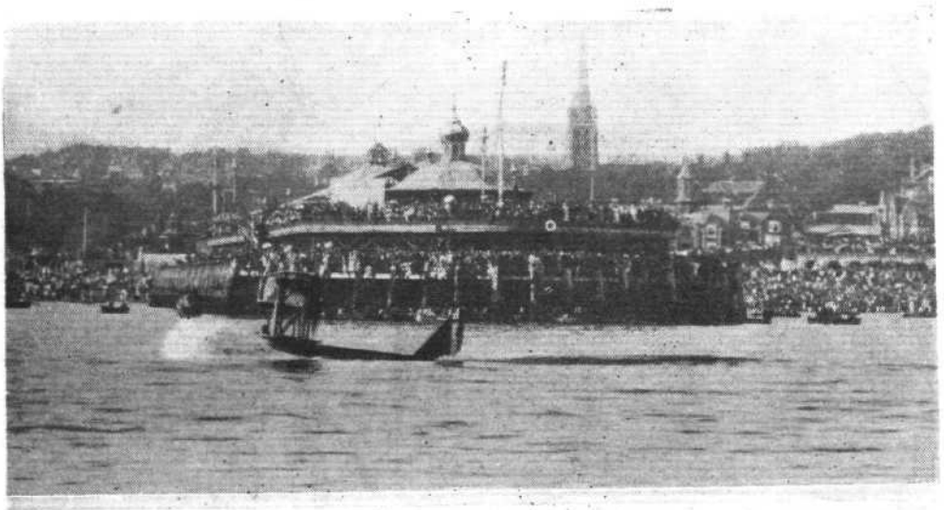


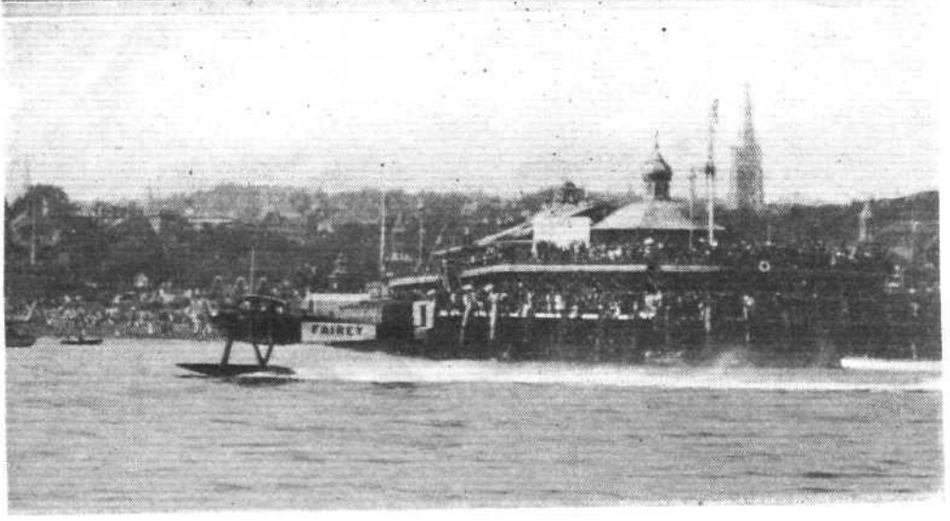




ALMOST A VICTOR: SR. JANELLO, THE ITALIAN REPRESENTATIVE (INSET), AND HIS SAVOIA S.13 FLYING-BOAT PASSING THE COMMITTEE YACHT ON HIS FOURTH LAP. HE COMPLETED THE FULL COURSE, IN SPITE OF FOG, BUT WAS NOT OBSERVED AT SWANAGE, SO THE CONTEST WAS ANNULLED. (*FLIGHT Photo.*)







AT BOURNEMOUTH: THESE FOUR VIEWS SHOW THE FOUR COMPETITORS IN THE 1919 CONTEST STARTING OFF THE PIER. THEY ARE, FROM TOP TO BOTTOM, HAWKER ON THE SOPWITH; JANELLO ON THE SAVOIA S.13; VINCENT NICHOLL ON THE FAIREY; AND HOBBS ON THE SUPERMARINE "SEA LION" FLYING-BOAT. (*FLIGHT Photo.*)



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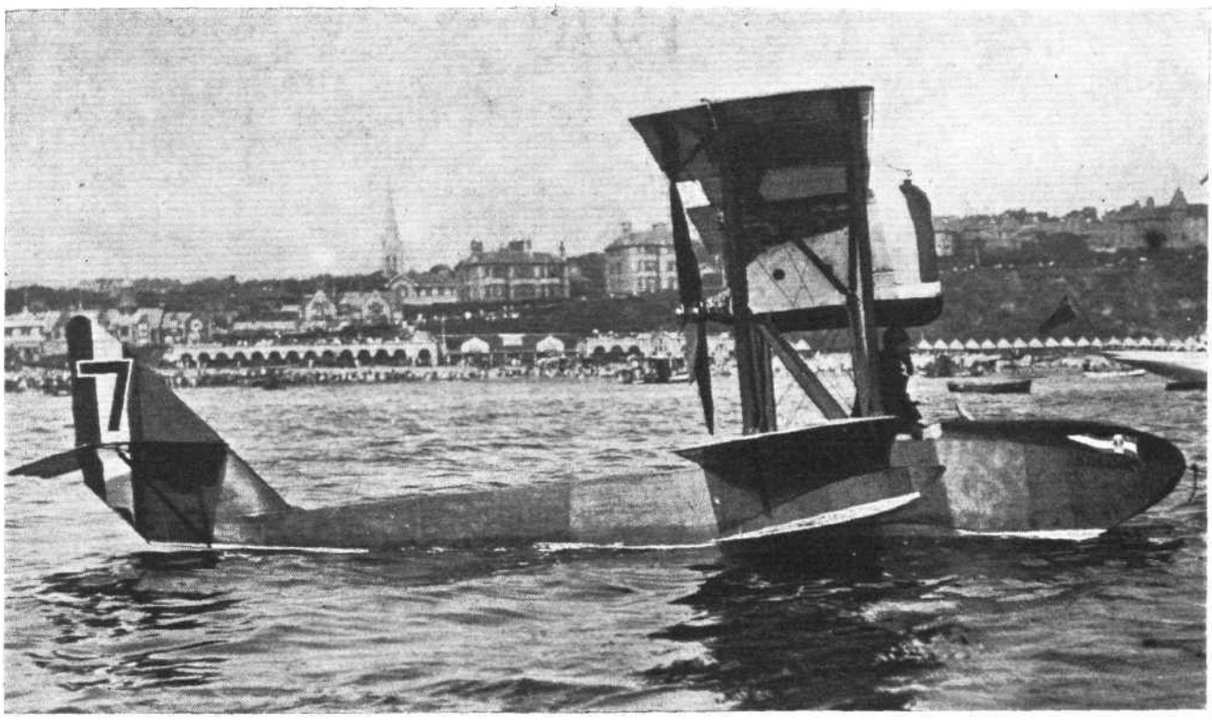
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Nieuport to come. The official time for the start, 2.30 p.m., arrived, but the fog once again descended and made it impossible to fly over the course. At 5 p.m. the fog lifted, and a start was made.

The first away was the Fairey, and officially the Nieuport was next, but repairs to its floats were still in progress, while No. 3, Hawker's Sopwith, also remained inactive. The Supermarine flying-boat, however, was ready on the line, and started off second.

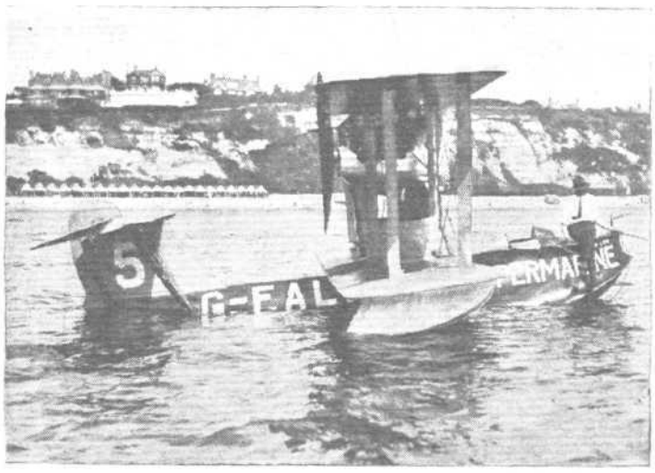
Meanwhile the Sopwith got into position, and without waiting for the starter's flag, Hawker got away into the mist, followed shortly after by Janello on the Savoia. Neither the Nieuport nor the Spad were ready to start.

Shortly after a machine suddenly loomed out of the mist overhead and somewhat hurriedly alighted off the pier. It was the Fairey, which apparently found conditions a little "too thick." Vincent Nicholl, the pilot, was not alone in this experience, for a few minutes later Hawker returned on the Sopwith and also landed.

Meanwhile the Savoia was seen making its two landings between Boscombe and Bournemouth piers, after which Janello—not without an apparent hesitation—proceeded to complete his circuits. So far nothing had been seen of the Supermarine, but eventually it was observed coming down between Christchurch and Boscombe. After making a normal landing, the flying-boat commenced to sink, and motor launches rushed to the spot and succeeded in rescuing the pilot and, later, salving the machine. Hobbs, it turned out, landed in Swanage bay to find his position, but with little success so bad was the fog. Deciding to return to Bournemouth he took off again, but in doing so struck some object in the water, making a large hole in the hull—hence, the Supermarine trying to be a submarine when alighting subsequently.

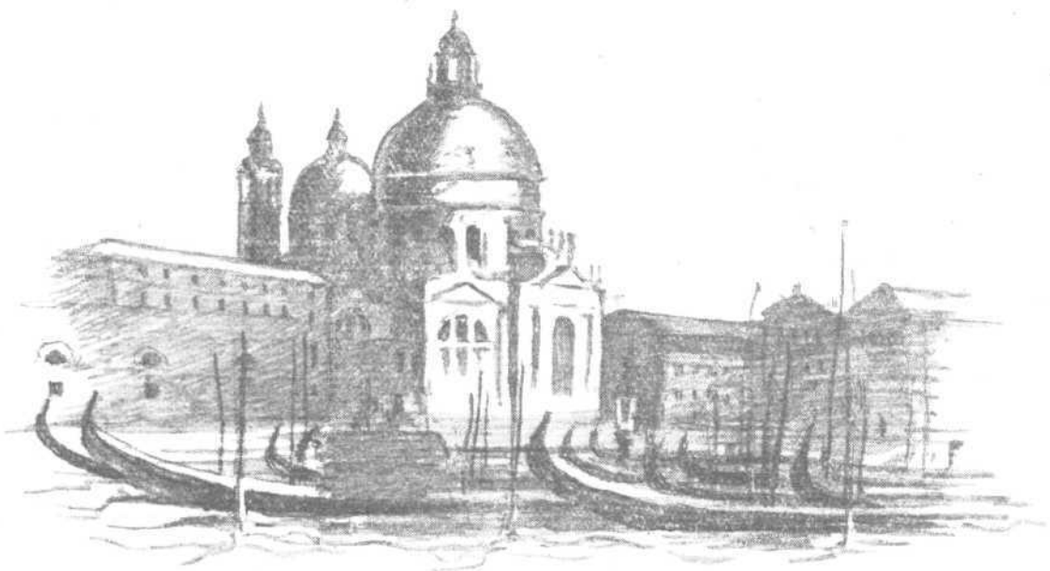
Thus, the contest resolved itself into a "one-man-show," for Janello kept on lapping consistently until he had completed the full ten laps. At first it was assumed that Janello had won the Trophy, but it was announced later that the observers in the mark boat in Swanage Bay had not seen the Savoia! The contest was, therefore, officially declared void.

Naturally, this decision caused considerable disappointment and discussion, and Italy lodged a protest, declaring that Janello had rounded *a* mark boat exactly like the one in Christchurch Bay. However, the F.A.I. upheld the decision, but as a compliment to Janello's plucky effort, it was decided that the next Schneider Contest should be held in Italy.



THE SUPERMARINE "SEA LION" FLYING-BOAT, WITH 450-H.P. NAPIER "LION," ONE OF THE BRITISH ENTRIES. IT WAS PILOTED BY SQ.-LDR. B. D. HOBBS. (*FLIGHT Photo.*)

1920



VENICE

DESCRIBED briefly, the Fourth Schneider Trophy Contest held in 1920 was almost as unsatisfactory as that held the year before at Bournemouth, for a contest with only one contestant can hardly be considered a success, and this was the state of affairs in 1920. In spite of the fact that the Royal Aero Club of Great Britain offered three prizes—in addition to the 25,000 fr. presented by M. Jacques Schneider—of £250, £150 and £100 to the British competitors who completed the course first, second and third respectively, no British entries were received by the R.Ae.C. But this was not the only ugly feature of the 1920 contest, for France also was not represented, as she withdrew her entries at the last minute. Italy was thus left alone in the field—and even she had her troubles.

There was a full Italian team, comprising two Savoia S.19 flying-boats, fitted with 500 h.p. Ansaldo engines, with Janello and Capt. Bologna for the pilots, a Macchi M.19 flying-boat fitted with a 700 h.p. Fiat engine with Zanetti for pilot, and a Macchi 12 (with de Briganti) as a reserve. Domestic troubles in Italy, and mechanical hitches seriously interfered with the plans of the pilots, with the result that Luigi Bologna was the only competitor able to take part in the contest.

This was fixed for September 19 at Venice, the course being a triangular one of 20 sea miles, to be covered 10 times, giving a total of 200 sea miles. Having successfully passed his navigability test the day before, Bologna attempted to fly over the course on the 19th, but owing to bad weather had to give up after covering five laps. He made another attempt on September 21, and although conditions were none too good, succeeded in completing the full distance in 2 hrs. 10 mins. 35 secs. at an average speed of 107 m.p.h. (172·5 k.p.h.). Bologna was therefore declared the winner of the Fourth Schneider Trophy Contest.



1921



VENICE

ONCE again the story of the Schneider Trophy must be recorded more or less as a fiasco. Italy then holding the Trophy after the previous "fly-over" had the organisation in hand for the Fifth Contest, and arrangements were made to hold it over the same course (10 laps totalling 200 sea miles) at Venice on August 6-7, 1921. In addition to the navigability tests, competitors had to undergo a "watertightness" test, in which the machines had to be moored for six hours. Although Italy entered no less than 10 machines—from which three defenders were subsequently selected—and France entered one, Great Britain once more remained discreetly in the background.

This was most unfortunate—especially after the previous year's failure to participate—and the fact that this country, which should undoubtedly have taken every opportunity to develop the seaplane, would not make an effort to bring back the Trophy caused considerable disappointment.

As a result of the eliminating trials, the Italian team consisted of the following: de Briganti on a Macchi VII flying-boat (200 h.p. Isotta Fraschini); Zanetti on a larger Macchi XIX flying-boat (700 h.p. Fiat); and Corniglio on another Macchi (Naval) flying-boat (250 h.p. Isotta). The French entry was a Nieuport-Delage twin-float biplane (300 h.p. Hispano-Suiza), piloted by Sadi Lecointe.

Unfortunately, the latter met with a mishap during a test flight prior to the contest, in which the machine was so badly damaged that it could not be repaired in time to participate—which was a pity, as it was a fast machine and stood a good chance of winning.

Thus Italy again was the only "competitor." On September 7, therefore, the three Italians proceeded to "fly-over." Zanetti, after some fast flying, had to retire with engine trouble—his machine also catching fire and giving its pilot an uneasy few minutes—while Corniglio also had to retire owing to shortage of petrol. This left de Briganti on the smallest machine, who completed the course in 2 hrs. 4 mins. 29 secs., at an average speed of 111 m.p.h. (178·5 k.p.h.). Italy, therefore, held the Trophy for a second time.



1922



NAPLES

DEFENDING for the third time in succession, Italy, in the following 1922 Schneider Contest, had the chance of retaining the Trophy for good—provided, of course, she proved to be the winner. This feature alone rendered this particular contest one of more than usual interest; but, in addition, the fact that there were other entries besides Italy saved it from being as unsatisfactory as the two previous contests. In point of fact, as events turned out, it was a very successful one.

Another noteworthy feature of the 1922 contest was that Great Britain was represented once again—which, apart from the subsequent result of the "race," to a certain extent redeemed British prestige which had suffered somewhat in the previous failures to participate. It should be recorded also this British challenge materialised entirely by "private" enterprise, whereas the Italian and French efforts received official or government support. In other words, it was due to the sporting action of the Supermarine Aviation Works, of Southampton, that a special challenger was built to bring back the Trophy to England.

The scene of operations for the contest this time was at Naples, where a triangular course of 13 laps, totalling 200·2 sea miles, was laid out, the date fixed for the contest being August 10–12. Two machines were entered by France, these being—if we remember rightly—flying-boats constructed by the Chantiers Aero-Maritimes de la Seine (C.A.M.S.), with Vroman and Teste for pilots. Unfortunately, however, these were unable to compete in the contest, so that only the British and Italian entries actually took part in the fight for the Trophy.

The British entry was a Supermarine biplane flying-boat fitted with 450 h.p. Napier "Lion" engine, and its pilot was Capt. H. C. Biard. Italy was represented by three defenders—two Savoia flying-boats and a Macchi flying-boat. The Italian pilots were Passaleva, Zanetti and Gorgolino.

The contest itself was a good one, all four machines completing the full course, and the finishing times being very close. Biard on the Supermarine "Sea Lion II" got away first, and when he had completed his first lap "Italy's face fell," for during his preliminary trials Biard had purposely throttled back a little and banked on his turns somewhat clumsily. This succeeded in deceiving the Italians, who thought he was going all out, and consequently felt certain of holding the Trophy.

The three Italian machines all got away on time, and the "race" began in earnest. Biard completed his first lap at well over 160 m.p.h., and he held this pace for six laps, during which he "overhauled" two of the Italians. For the next five laps he nursed his "Lion" a little—with the result that the aforesaid Italian faces lifted somewhat! Especially as the fastest Italian challenger caught up a little bit—for it brought the lead from 25 seconds down to 20 seconds.

Their joy was short-lived, however, for on his thirteenth (the last) lap, Biard opened his engine all out and romped home some 2 mins. 3 secs. ahead. Before coming down, however, Biard wisely completed another two laps—just to make certain of things.

It was a glorious victory, for the others were not very far behind. Biard completed the 200·2 sea miles in 1 hr. 34 mins. 51⅗ secs., or at 145·7 m.p.h. (234·5 k.p.h.), Passaleva was second with 1 hr.

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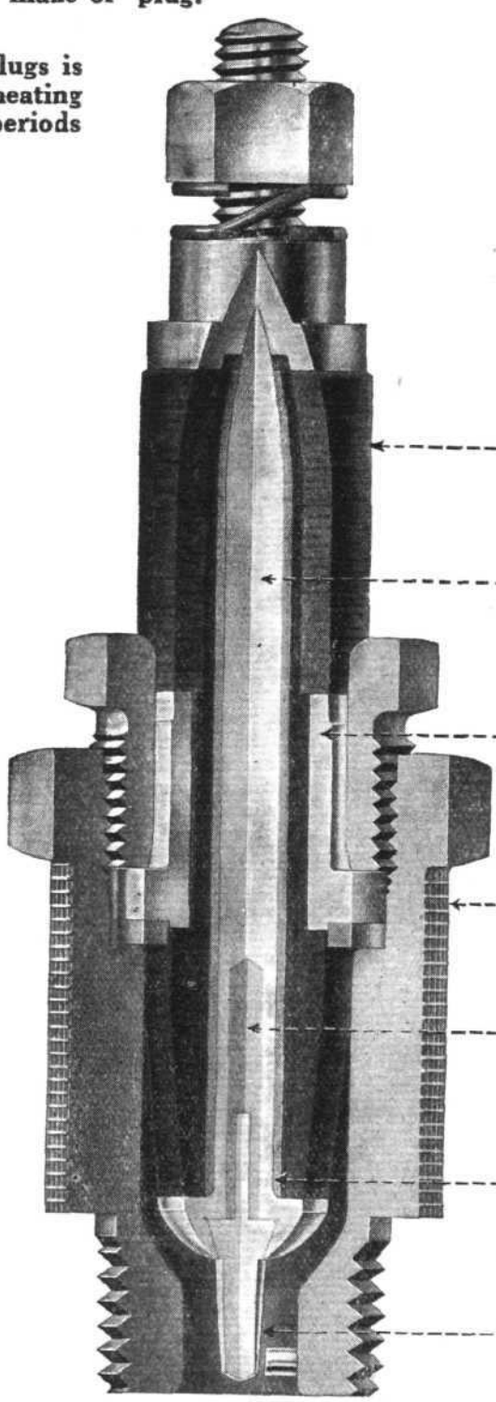
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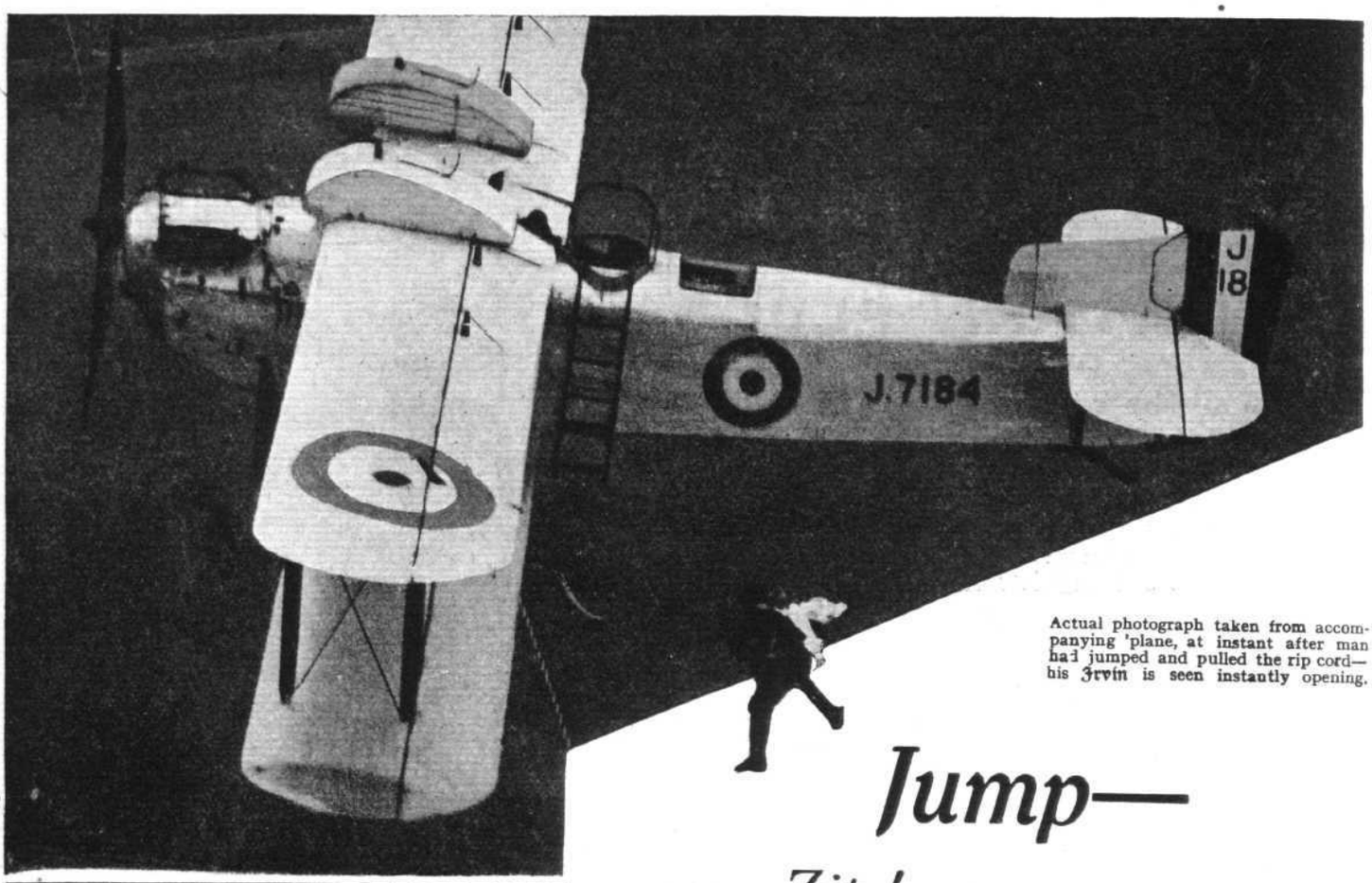
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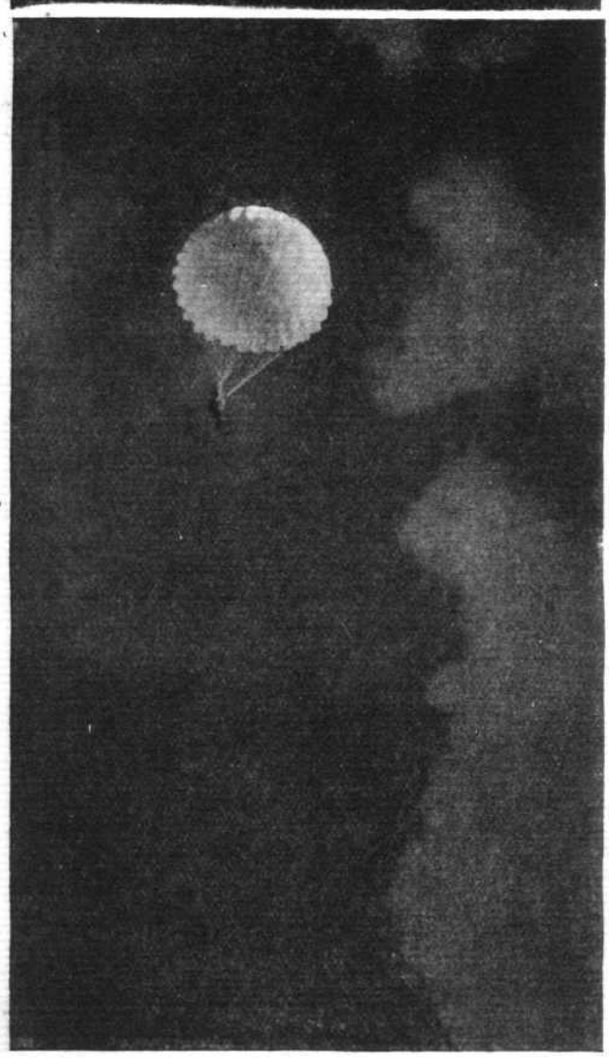
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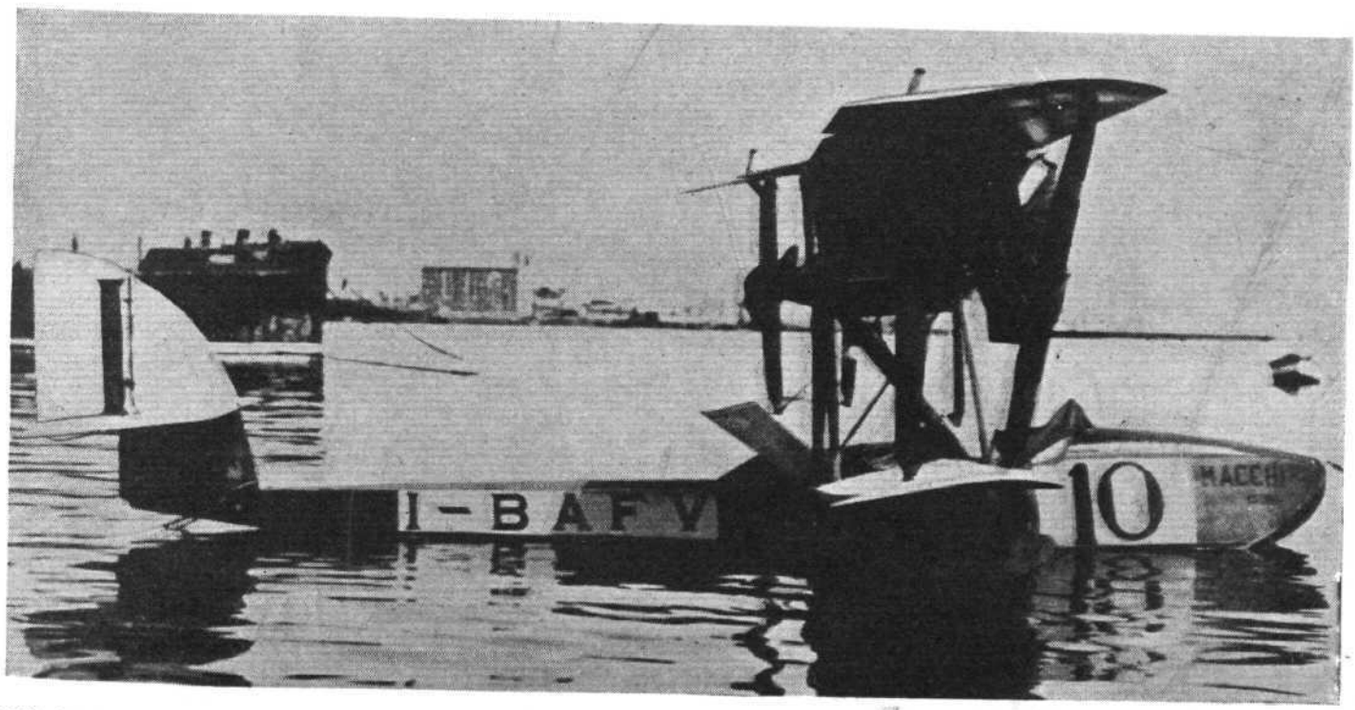
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THE WINNING SUPERMARINE "SEA LION" FLYING-BOAT, WITH 450-H.P. NAPIER "LION," ON WHICH CAPT. H. C. BIARD GAINED BRITAIN'S SECOND VICTORY IN 1922. HIS SPEED WAS 145·7 M.P.H.

36 mins., Zanetti was third with 1 hr. 38 mins., and Gorgolino fourth with 1 hr. 51 mins.

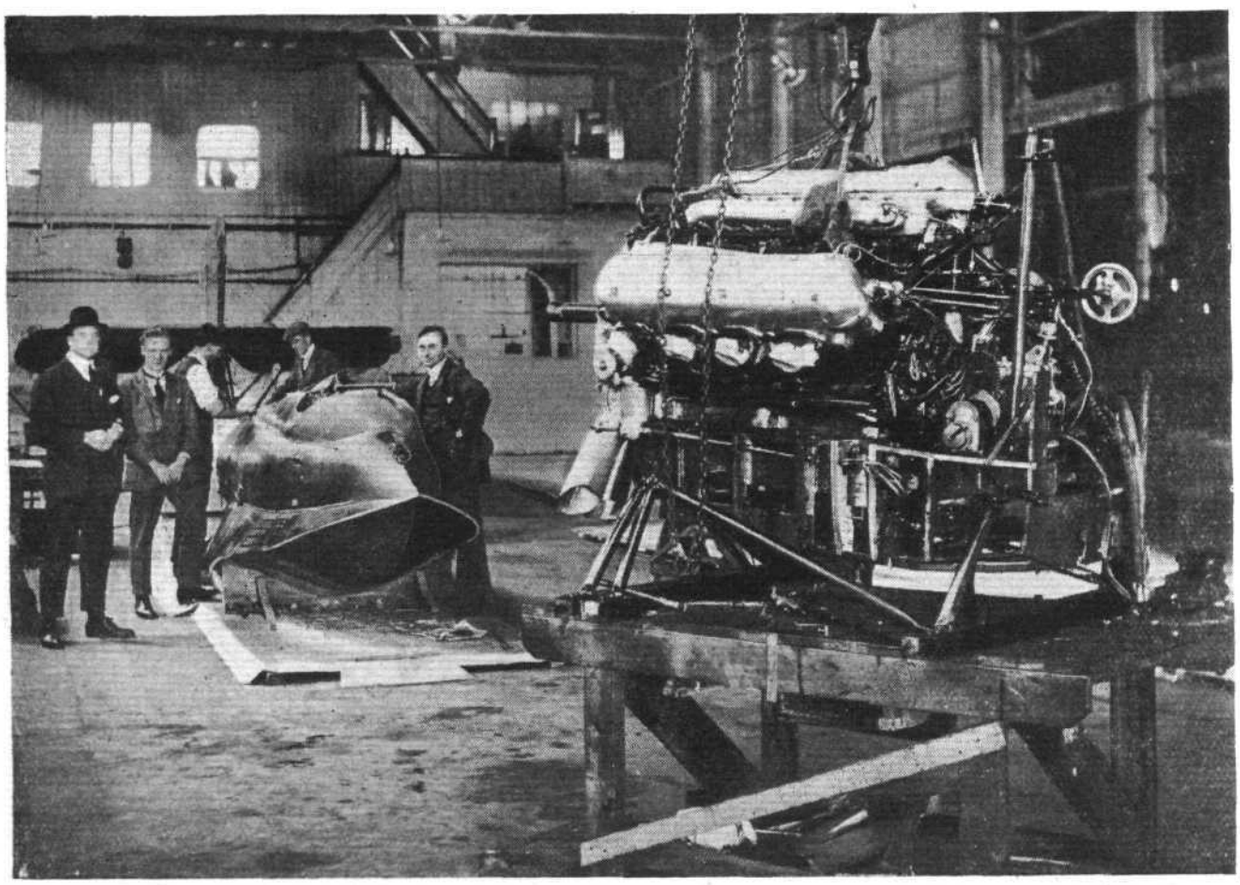
When Capt. H. C. Biard and Mr. H. Scott-Paine—the "conquering heroes"—returned home to Southampton on August 24 they were accorded a very hearty and well-deserved civic reception. They were received by the Mayor of Southampton, and later entertained at Audit House in the Mayor's Parlour. Their greatest welcome, however, was that given them immediately after, when they adjourned to the Supermarine Works at Woolston and were enthusiastically received by the staff and employees.



ONE OF THE ITALIAN ENTRIES IN THE 1922 SCHNEIDER TROPHY CONTEST. THE MACCHI FLYING-BOAT.



THE SECOND BRITISH VICTOR: CAPT. H. C. BIARD, THE ONLY BRITISH REPRESENTATIVE IN THE SIXTH, 1922, SCHNEIDER TROPHY CONTEST, WHICH HE WON FROM ITALY. (*FLIGHT Photo.*)



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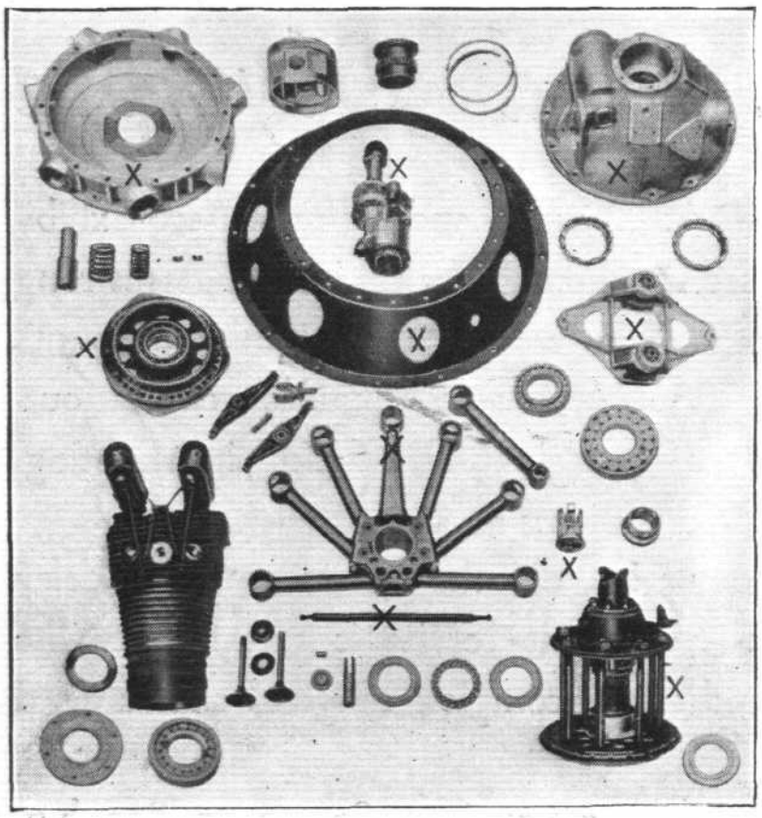
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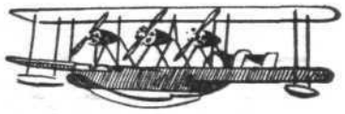


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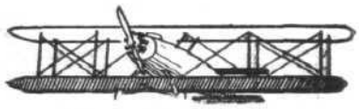
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Nieuport-Lynx,
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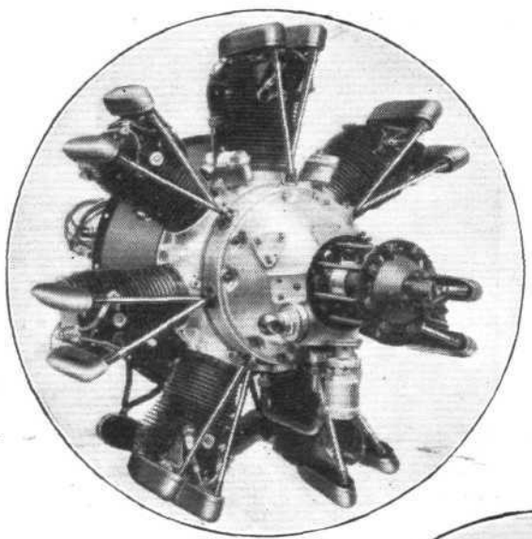


Fokker VII 3M 3 Lynx,
Civil use.

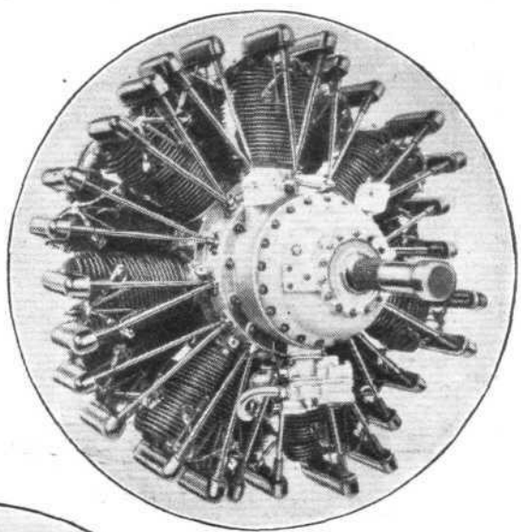
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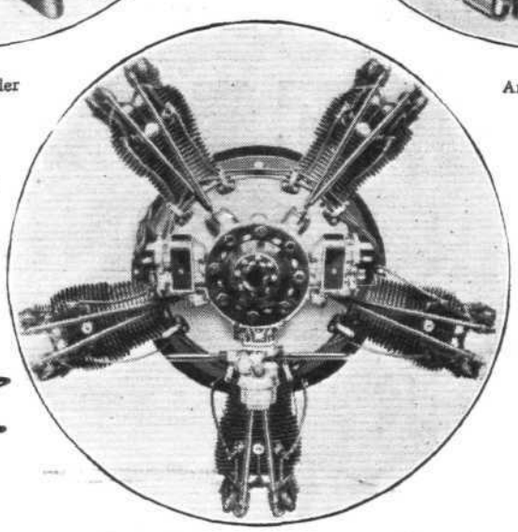
ARMSTRONG SIDDELEY
ENGINES



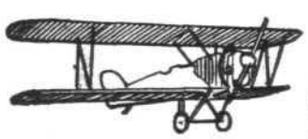
Armstrong Siddeley 7-cylinder
215-230 Lynx.



Armstrong Siddeley 14-cylinder
385-440 Jaguar.



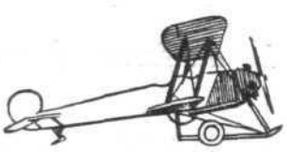
Armstrong Siddeley 5-cylinder
150-165 Mongoose.



Hawker Tomtit-Mongoose,
Land Training.



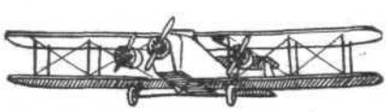
Fokker-Mongoose,
Land Training.



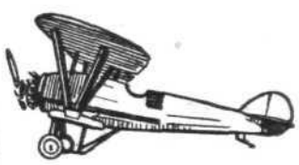
Avro-Mongoose,
Land Training.



Blackburn Lincock-Lynx,
Land Fighter.



Argosy 3 Jaguars,
Civil use.



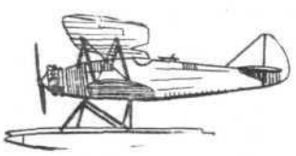
Siskin-Jaguar,
Land Fighter.



Atlas-Jaguar,
Land Reconnaissance.



Heinkel-Jaguar,
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Atlas-Jaguar,
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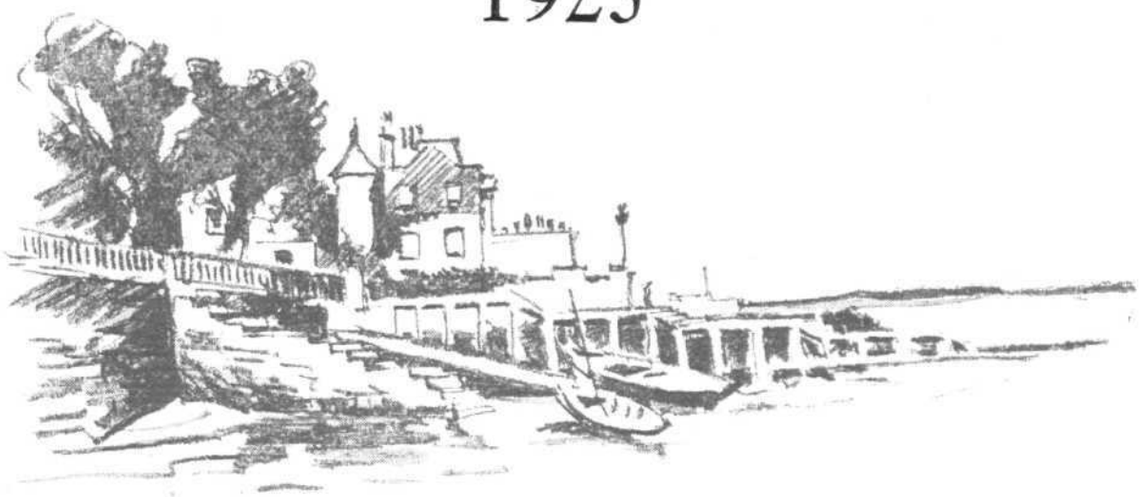
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1923



COWES

NEXT year saw the Schneider Trophy Contest once more held in England, this time at Cowes, on September 28. The course was a little less in the total distance covered than in previous contests, being 186 sea miles, in five laps. The start and finish was located at Cowes, and there were turning points at Selsey Bill and Southsea.

There was an excellent entry list for this contest, in which the following countries were represented: Great Britain, France, Italy, and America. France originally entered six—two by Soc. Industrielle de Caudebec-en-Caux (Latham), two by C.A.M.S., and two by Soc. Aeronautique Blanchard. Great Britain entered three—a Supermarine-Napier flying-boat, a Blackburn flying-boat, and a Sopwith-Hawker. America sent over four machines, one as a reserve. Italy, unfortunately, had to withdraw her entries a few weeks before the contest, while the Sopwith-Hawker machine—which had previously taken part, as a land 'plane, in the Aerial Derby—met with a mishap during its trials as a seaplane. It was a twin-float tractor biplane, fitted with a Bristol "Jupiter" engine, and during a test flight by W. H. Longton its spinner came adrift and the machine had to be force-landed in a small field, with disastrous results to the 'plane, although, fortunately, Longton escaped injury.

Disaster also befell one of the American entries during a trial flight over the Solent. It was a Navy-Wright twin-float biplane, fitted with 700 h.p. Wright engine, and was considered to be the fastest of the American machines. The accident was caused by the bursting of the metal propeller, which damaged the floats, and so causing the machine to crash on alighting. Lieut. Gorton, the pilot, was uninjured. Of the French entries, the Blanchard machines were withdrawn. The final list of competitors, therefore, was as follows:—

Great Britain.—Supermarine "Sea Lion III" biplane flying-boat, 450 h.p. Napier "Lion"; pilot, Capt. H. C. Biard. Blackburn "Pellet" biplane flying-boat, 450 h.p. Napier "Lion"; pilot, R. W. Kenworthy.

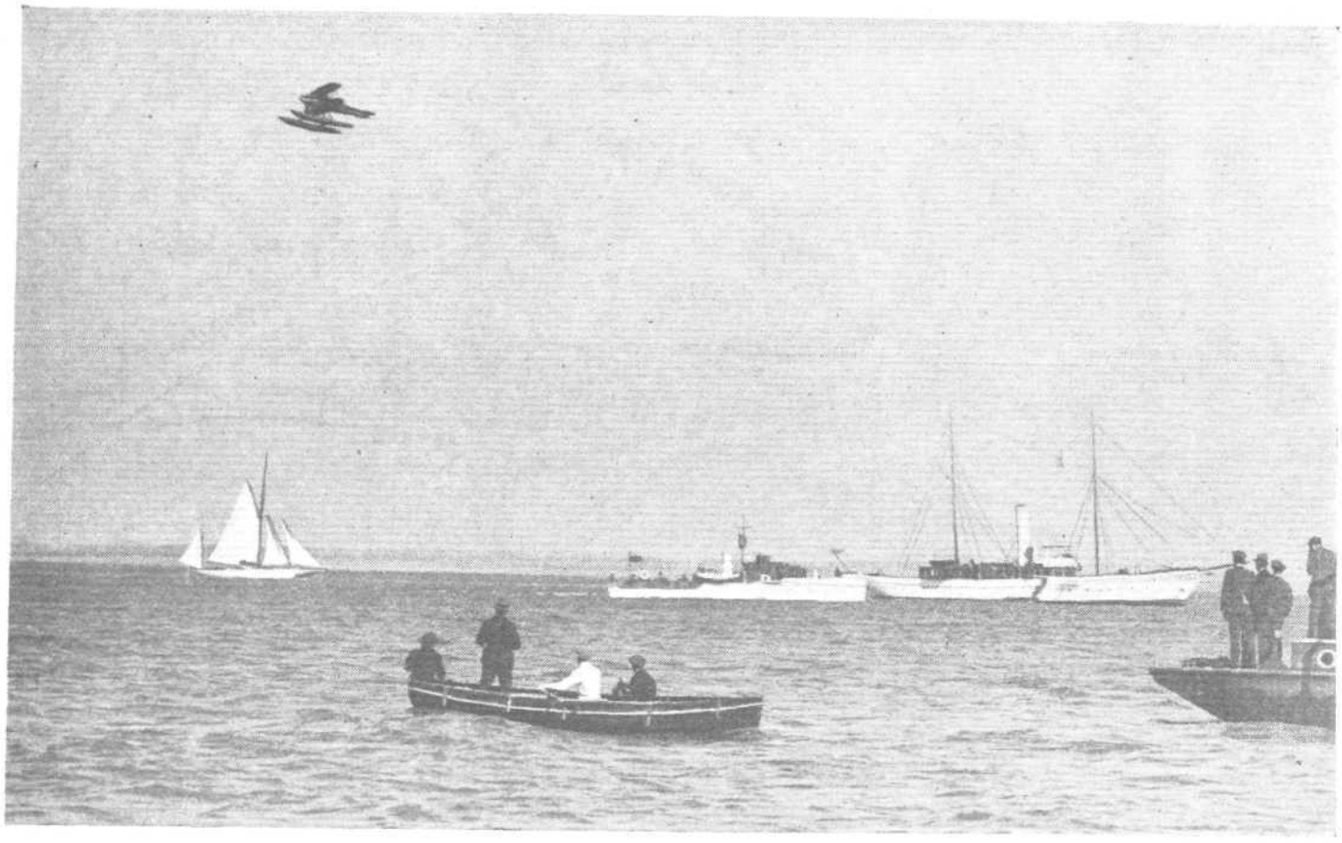
France.—C.A.M.S. 38 biplane flying-boat, 360 h.p. Hispano-Suiza; pilot, M. Hurel. C.A.M.S. 36A biplane flying-boat, 360 h.p. Hispano-Suiza; pilot, Pelletier d'Oisy. Latham L.1 twin-engined biplane flying-boat, two 400 h.p. Lorraine-Dietrich; pilot, M. Duhamel.

U.S.A.—Curtiss-Navy C.R. 3 twin-float biplane, 500 h.p. Curtiss D.12; pilot, Lieut. Irvine. Curtiss-Navy C.R. 3, 500 h.p. Curtiss D.12; pilot, Lieut. Rittenhouse. Navy T.R. 3A twin-float biplane, 300 h.p. Wright; pilot, Lieut. Weade.

The navigability trials, followed by a six-hour mooring test, were held on September 27; in these, competitors had to taxy two distances of half a mile each at not less than 12 knots, fly a certain distance and alight again, after which the machines had to be left moored to a buoy unattended for six hours. Biard put the "Sea Lion III" through its tests in fine style, and the two C.A.M.S. boats, which followed him, also passed these successfully—their high-speed taxying being exceptionally good.

The two Curtiss-Navy racers, No. 3 (Irvine) and No. 4 (Rittenhouse), next went through the tests, and they too passed these successfully, as did the Latham flying-boat. There was only one more competitor to come—Kenworthy on the Blackburn "Pellet," which was hurriedly being given its finishing touches at the S. E. Saunders hangars. Eventually the "Pellet" made its appearance and proceeded to taxy; the bows rose considerably, then "flopped" back into the water, rose again and fell, and, after a few more, turned turtle and sank. Kenworthy did not reappear for what seemed to be a considerable time, and then he suddenly bobbed up, to be rescued—little the worse for his experience—by motor launches which had rushed to his aid. Great Britain, therefore, had only one defender.

In contrast to the last time the contest was held in England, weather conditions were good on

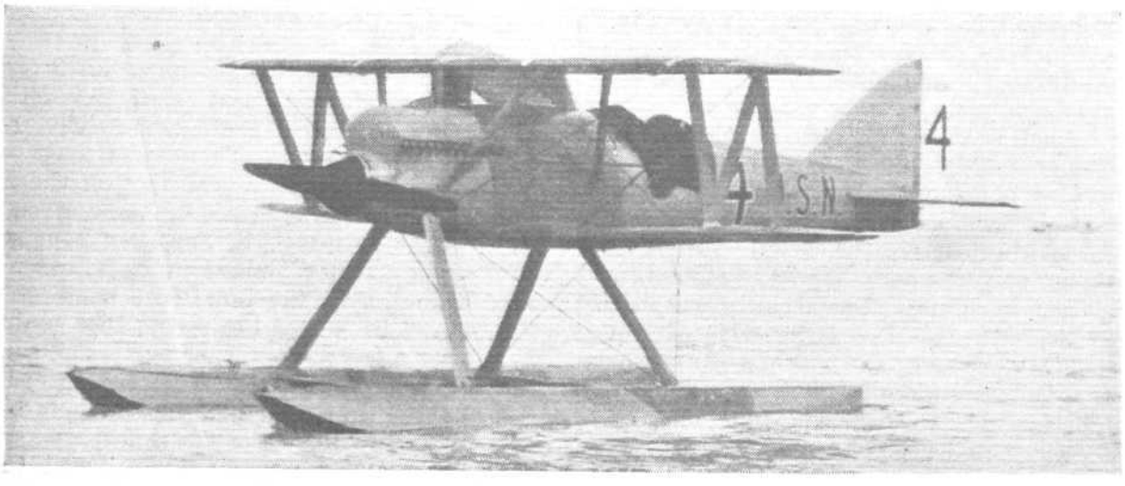


AMERICA'S FIRST WIN : LIEUT. RITTENHOUSE, ON THE NAVY-CURTISS RACER, WINNING THE SCHNEIDER TROPHY AT COWES, 1923, WITH A SPEED OF 177·38 M.P.H. (*FLIGHT Photo.*).

September 28, and the contest was flown without a hitch in this respect. Of the six competitors now left "in the flying," only four took part in the actual contest. These started in the following order :— The two U.S. Navy-Curtiss racers, No. 3 (Irvine) and No. 4 (Rittenhouse) were sent off first, and both were soon out of sight in the direction of Selsey. Fifteen minutes later Biard, on the Supermarine, was dispatched—and, much to every one's surprise, as he took off No. 4 re-appeared, and Rittenhouse commenced his second lap as Biard started his first. Irvine came along 20 seconds behind.

After this the French team were signalled to start, but only Hurel, on C.A.M.S. 38, got away, the other two retiring—one fouling a buoy and the other having engine trouble. Biard completed his first lap in 17 mins. $11\frac{1}{5}$ secs., and Hurel in 19 mins. $42\frac{2}{5}$ secs. ; the latter retired on the next lap.

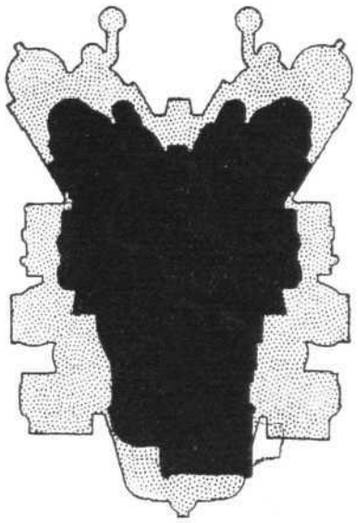
Biard put up a very splendid effort to retain the Trophy for England, but the two American racers were faster, and so the Trophy went to U.S.A.—Great Britain having to take third place ! Rittenhouse covered the course in 1 hr. 12 mins. $26\frac{4}{5}$ secs., at an average speed of 177·38 m.p.h., Irvine's time being 1 hr. 14 mins. $5\frac{1}{5}$ secs. (173·46 m.p.h.) and Biard's time 1 hr. 21 mins. 46 secs. (151·16 m.p.h.).



THE WINNING U.S. NAVY-CURTISS R.3.C.2 TWIN FLOAT BIPLANE FITTED WITH A 500-H.P. CURTISS D.12. (*FLIGHT Photo.*).

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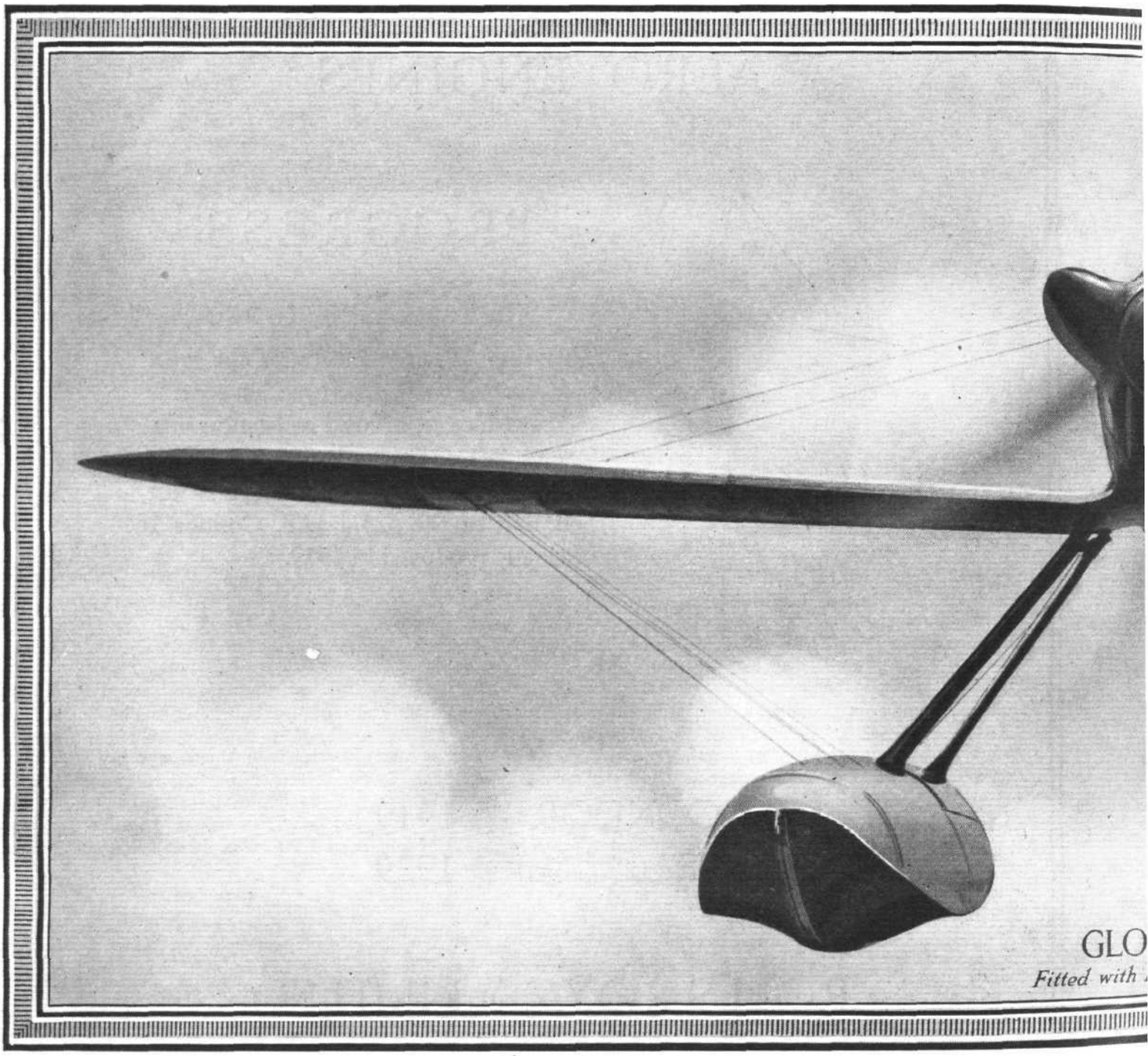
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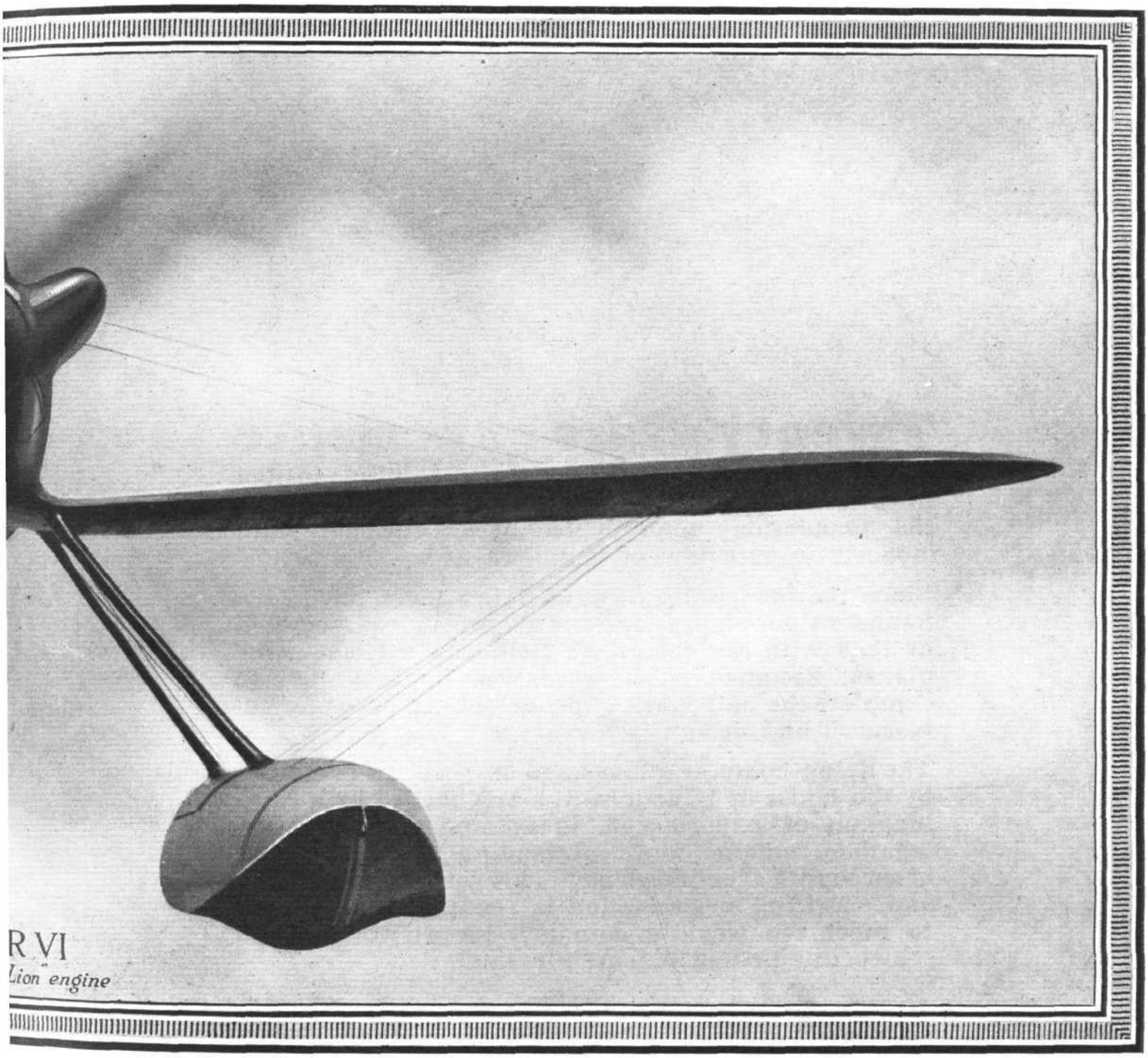
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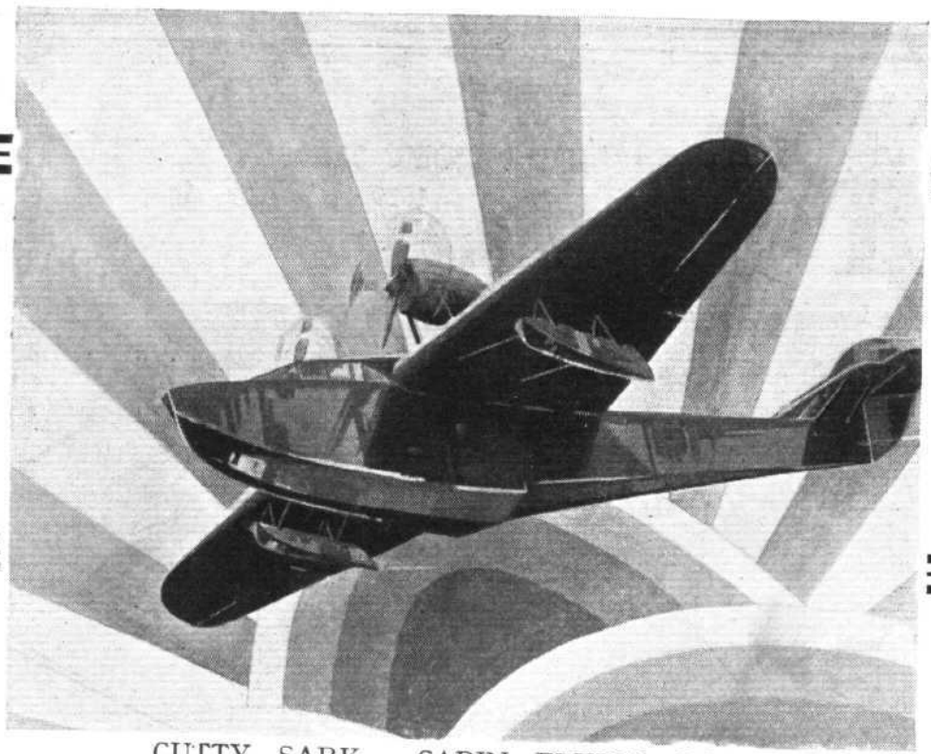
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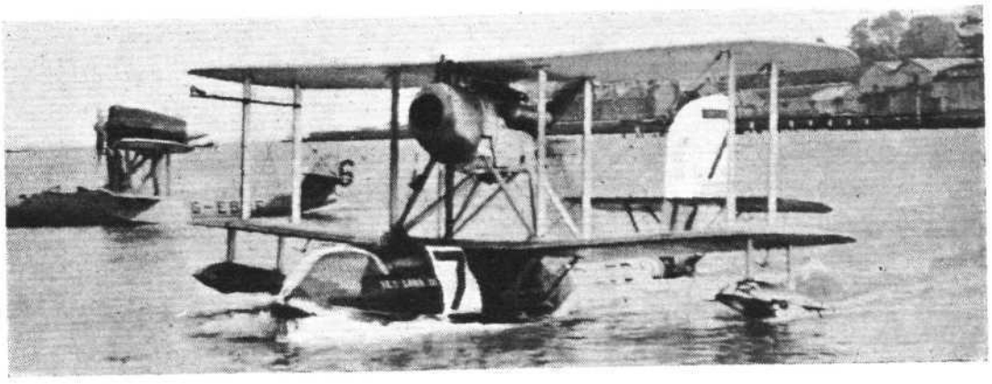
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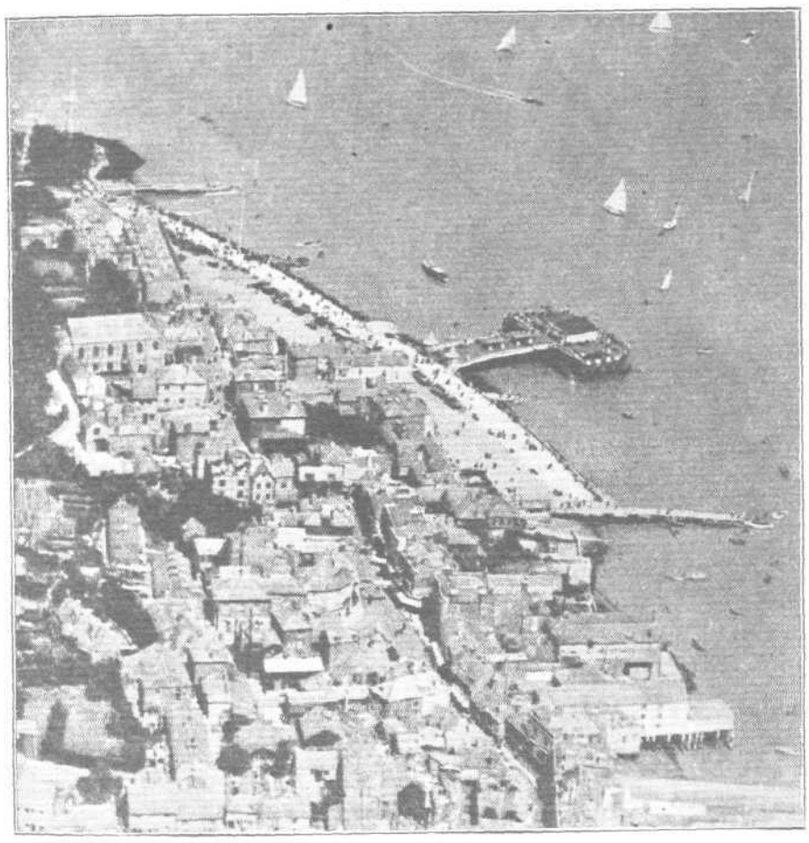
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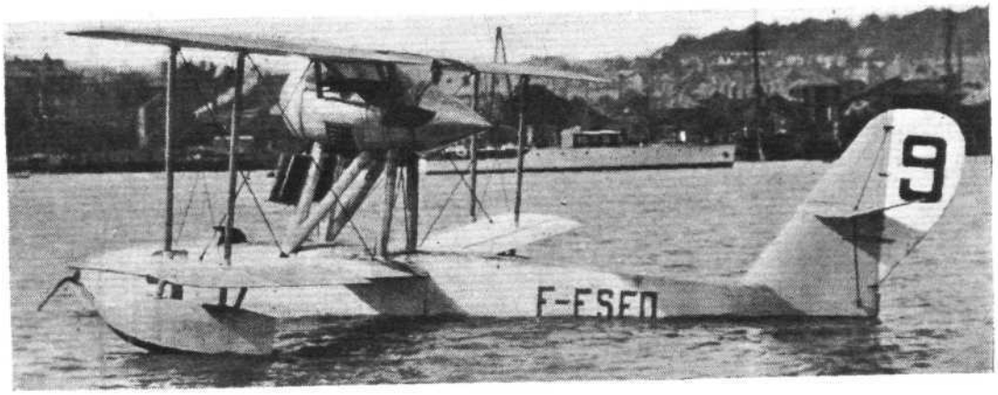
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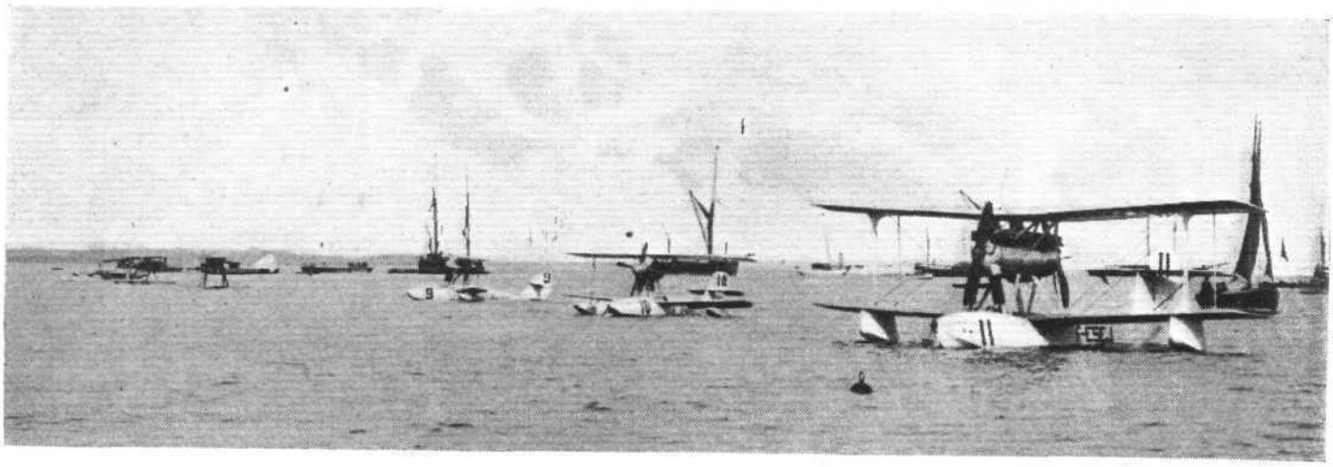
THE BRITISH ENTRY : THE SUPERMARINE "SEA LION III" WITH 450 H.P. NAPIER "LION" WHICH, PILOTED BY H. C. BIARD, OBTAINED THIRD PLACE. (*FLIGHT Photo.*)



AN AERIAL VIEW OF COWES, WHICH WAS THE STARTING AND FINISHING POINT IN THE 1923 CONTEST. (*Photo. courtesy Southern Railway.*)



A FRENCH ENTRY : THE C.A.M.S.38, FLYING-BOAT, WITH 360 H.P. HISPANO-SUIZA, PILOTED BY M. HUREL, WHO RETIRED ON THE SECOND LAP. (*FLIGHT Photo.*)



THE MOORING TEST: SIX COMPETING MACHINES MOORED OUT IN THE SOLENT. THEY ARE, FROM LEFT TO RIGHT, THE SUPERMARINE "SEA LION III," THE TWO NAVY-CURTISS, THE C.A.M.S. FLYING-BOATS, AND THE LATHAM FLYING-BOAT.



LIEUT. RITTENHOUSE, U.S. NAVY, WINNER OF THE SEVENTH SCHNEIDER TROPHY CONTEST IN 1923 AT COWES. (*FLIGHT Photo.*)



A NON-STARTER: THE AMERICAN NAVY-WRIGHT SEAPLANE, POWERED WITH A 700 H.P. WRIGHT T ENGINE. DURING A TRIAL FLIGHT ITS METAL PROPELLER BURST AND DAMAGED THE FLOATS, RESULTING IN A CRASH WHEN THE PILOT ATTEMPTED TO LAND. (*FLIGHT Photo.*)

1924



NO CONTEST

AMERICA having gained her first Schneider victory at Cowes in 1923, it fell to her lot to organise and prepare for the next contest in 1924, and this she proceeded to do. It was decided that the rules and regulations should remain as before, and that the contest be held at Baltimore on or about October 24.

In spite of the fact that America proposed to follow her policy of Government support as regards the provision of a suitable team to defend the Trophy, Great Britain only half woke up with an offer of assistance—of sorts—from official quarters. In other words, the Air Ministry ordered from the Gloster Aircraft Co., of Cheltenham, a special experimental high-speed machine, and, provided its performance proved satisfactory, promised to loan the machine to the Gloster Co. for participation in the contest.

Mr. H. P. Folland forthwith set to work to design and produce such a machine. As a result, an excellent little machine was completed by the summer. It was a biplane of only 20-ft. span fitted with a special Napier "Lion" engine.

Fate was unkind to us, however, for during its trials in September it was lost in an accident, and Great Britain was without a challenger. Capt. H. S. Broad was putting the seaplane through its first trials at Felixstowe, and the performance of the machine was very promising. At the conclusion of the flight Broad brought the machine down on the water, making a good landing, but it had no sooner alighted than the undercarriage gave way, and the machine began to sink. Broad was rescued uninjured, but the machine was lost.

As Italy had withdrawn her entries, this left America alone in the contest, and rather than claim a "fly-over" she consented to call the race off until the following year. This was an extremely sporting action on the part of America, for it not only—as things turned out later—kept the contest alive, but it lost to her the chance of winning the Trophy outright.

For, having won it in 1923, and subsequently in 1925, the "fly-over" would have made the three consecutive wins.





1925
BALTIMORE

THE Eighth Schneider Trophy Contest, "brought forward" from 1924, was held at Bay Shore Park, Baltimore, on October 26—having been originally scheduled to take place on October 24, but owing to bad weather was postponed to that date. The course was a triangular one of 50 km. extending out over Chesapeake Bay, starting and finishing at Bay Shore. There were seven laps of this course, giving a total distance of 350 km. or 188·86 sea miles.

Three countries were represented: U.S.A., the defenders, Great Britain and Italy.

The American defenders comprised two entries by the U.S. Navy, Lieuts. Cuddihy and Ofstie, and one by the U.S. Army, Lieut. J. Doolittle—all three piloting Curtiss R.3C-2 twin-float biplanes fitted with 600 h.p. Curtiss V.1400 engines.

The two British entries consisted of a Supermarine-Napier S.4 twin-float monoplane (700 h.p. Napier "Lion") piloted by Capt. H. C. Biard; and a Gloster-Napier III twin-float biplane (700 h.p. Napier "Lion") piloted by Capt. H. Broad, while there was a reserve Gloster III machine, with Bert Hinkler, as pilot.

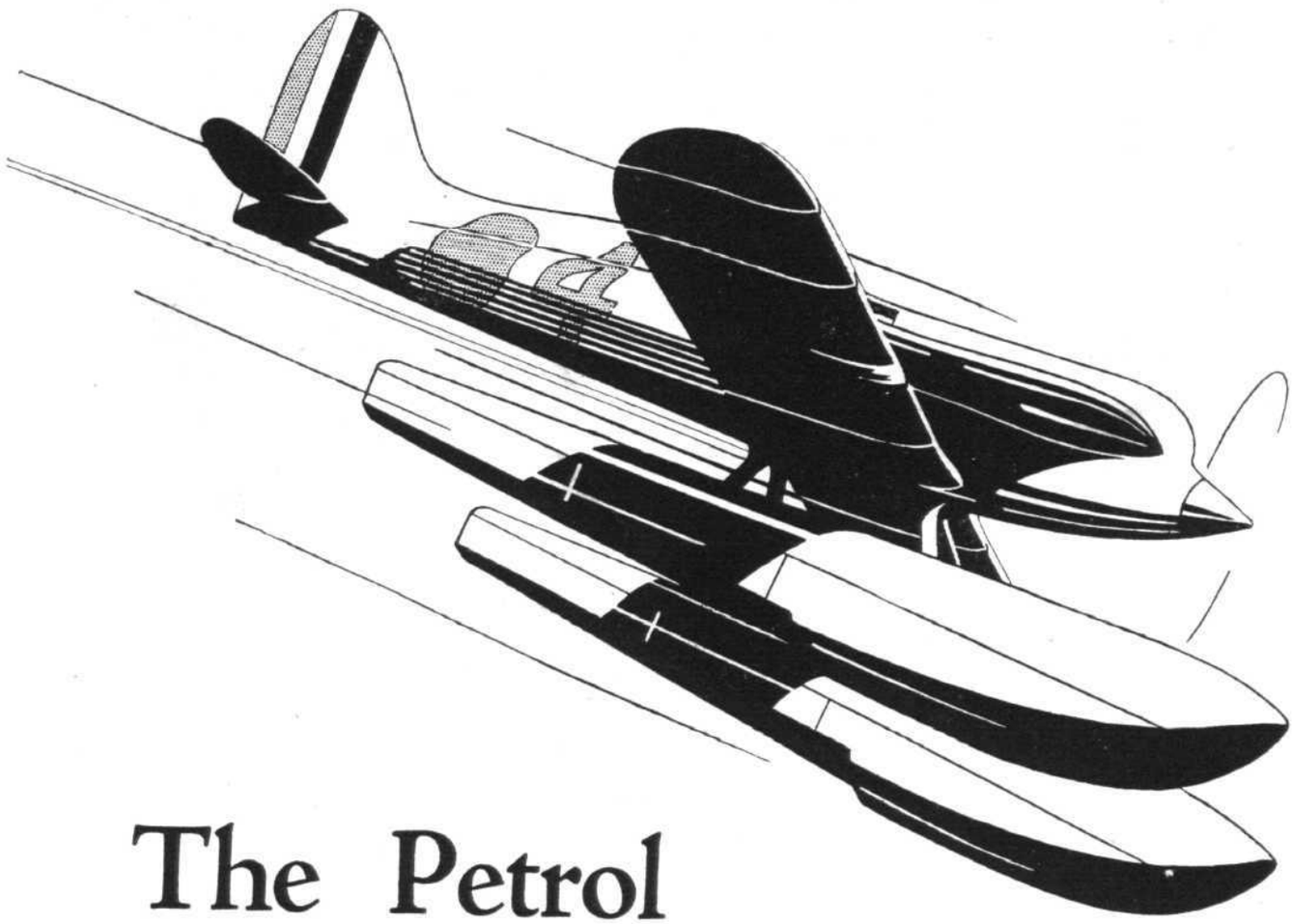
Italy was represented by two entries, both Macchi M.33 twin-float low-wing monoplane flying-boats, fitted with 500 h.p. Curtiss D.12 engines, the pilots of which were de Briganti and Lieut. Morselli.

Misfortune dogged Britain from the first; going over on the liner, Biard slipped and badly injured his wrist, and then at Baltimore came a hurricane which nearly wrecked the British machines and damaged the S.4's tail. On the day of the eliminating trials, Biard started for his tests, but during these the S.4 got out of control, and he came down rather forcibly, the floats gave way and the machine sank. Fortunately Broad was near by in the Gloster III, and dashed to Biard's assistance, throwing him a lifebuoy which kept him afloat until rescued.

Broad passed his tests all in order, as did the Americans and Italians, but Bert Hinkler, on the spare Gloster III, failed on the first attempt through a broken bracing wire. The next day—that fixed for the contest—bad weather caused a postponement until Monday, October 26. All day Sunday Hinkler awaited a chance to pass his tests, but without luck, then, when he did try on the Monday morning, he also "eliminated," the rough sea carrying away his undercarriage.

Thus, the following started (at five-minute intervals) in the contest—Doolittle (Army-Curtiss); Broad (Gloster III); Cuddihy and Ofstie (Navy-Curtiss); and de Briganti (Macchi). The second Italian pilot scratched.

Ofstie retired on the sixth lap, and Cuddihy failed on the last lap. Doolittle won easily, covering the course in 56 mins. 6·36 secs., at 232·57 m.p.h. Broad was second, some way behind, for his speed was only 199·169 m.p.h., while de Briganti came in third, with 168·44 m.p.h.



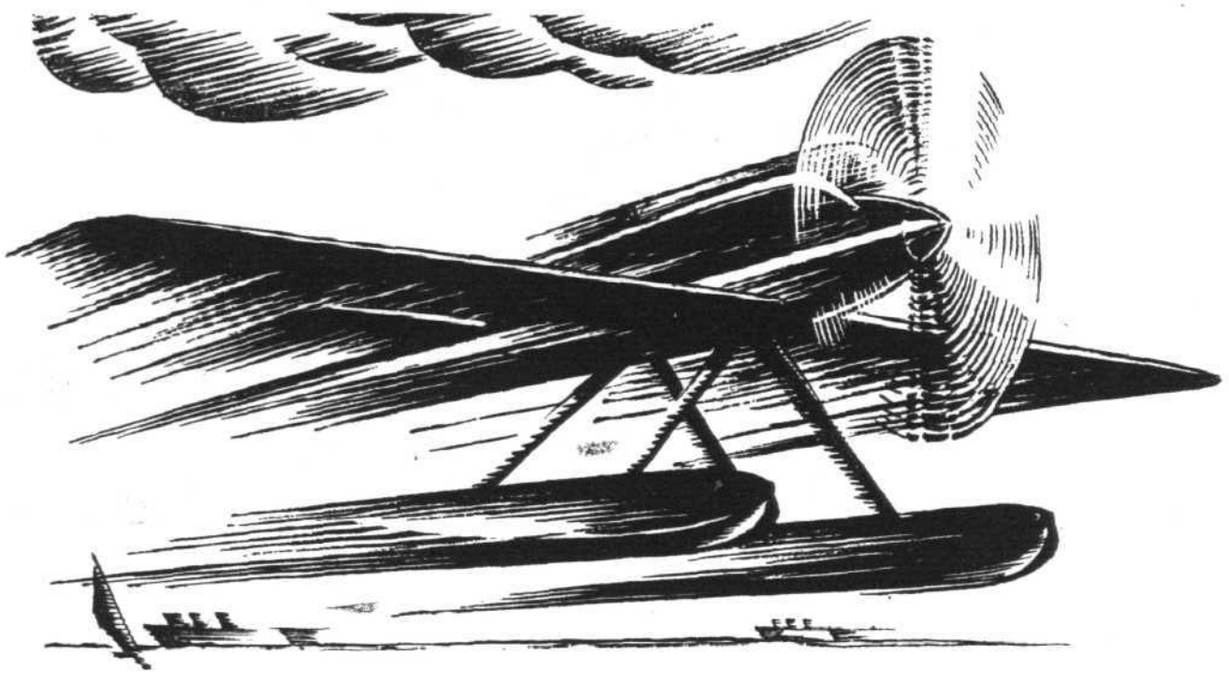
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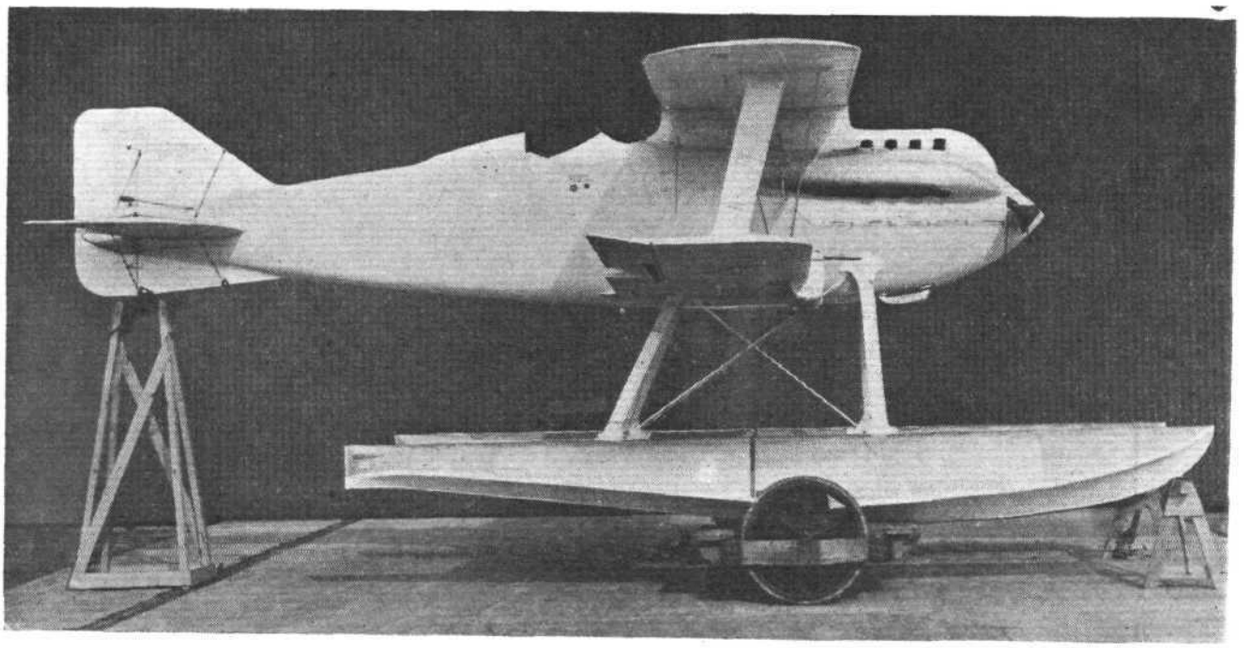
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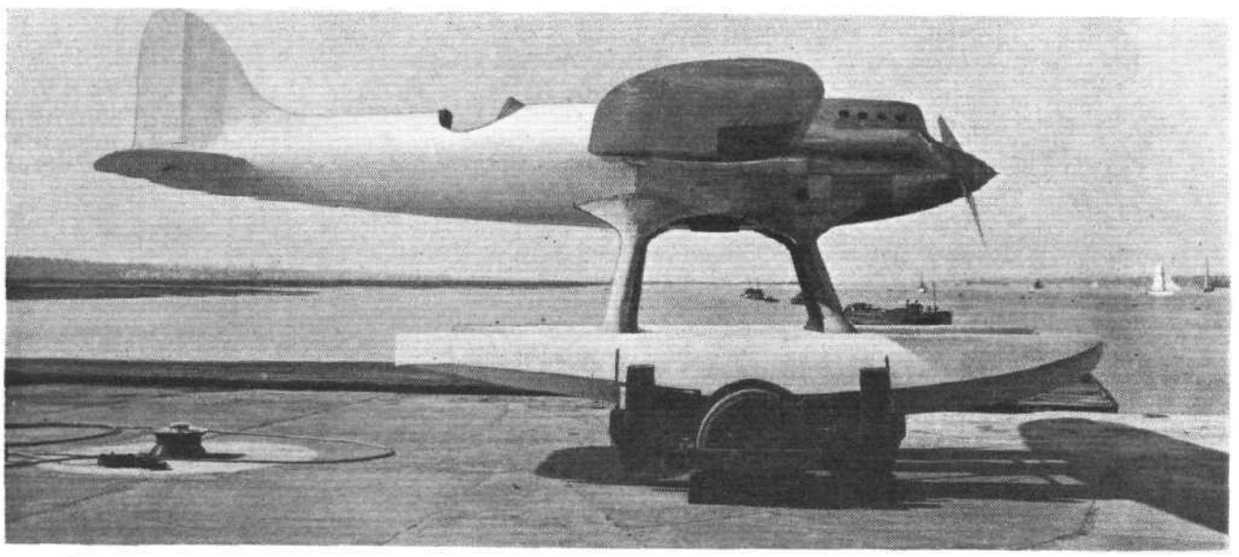


AN AERIAL VIEW OF BALTIMORE, THE SCENE OF OPERATIONS OF THE EIGHTH SCHNEIDER CONTEST. (*PHOTO. courtesy the Baltimore & Ohio Railroad Co.*)



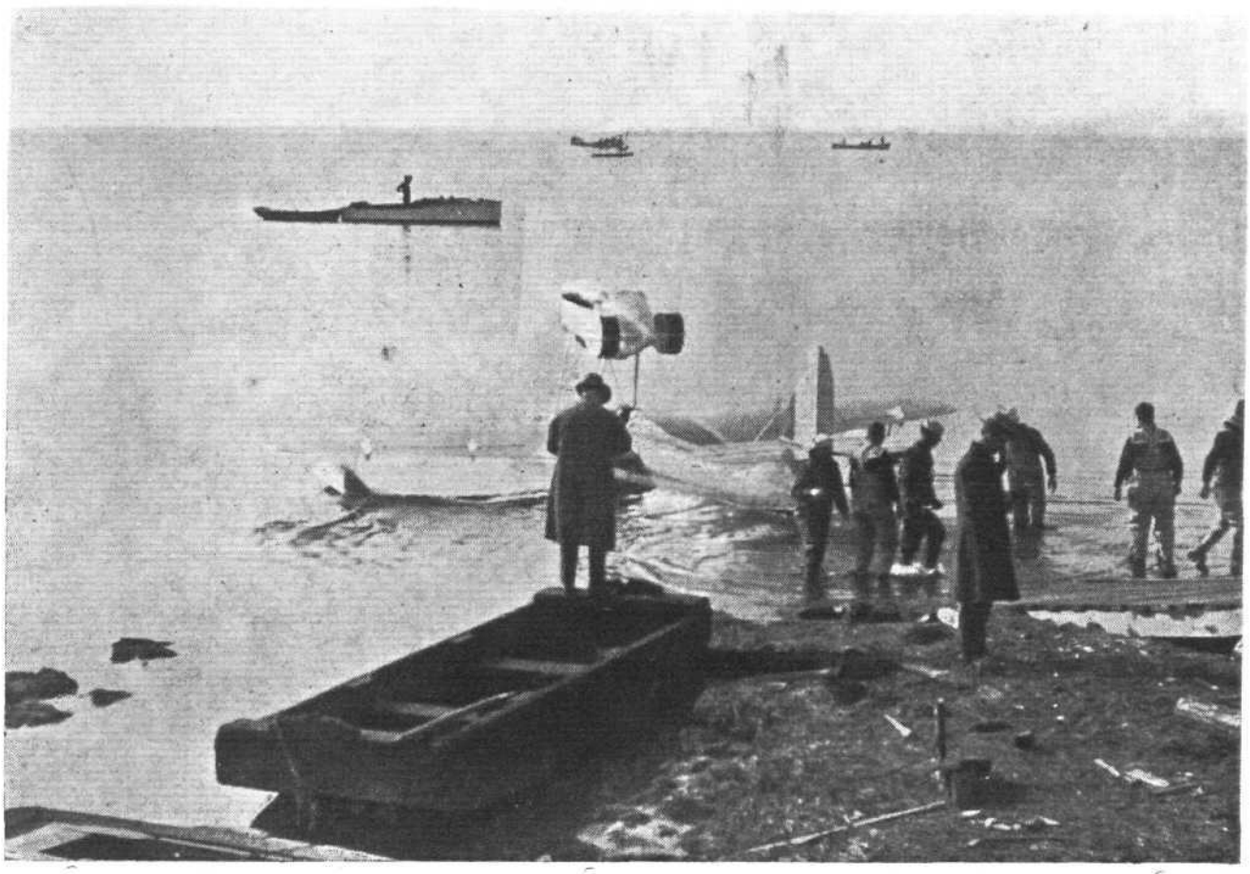
THE WINNING DEFENDER: THE CURTISS R.3-C.2 RACING SEAPLANE, WITH 600 H.P. CURTISS V.1400, AND ITS PILOT, LIEUT. J. DOOLITTLE, WHO WON THE 1925 SCHNEIDER CONTEST WITH A SPEED OF 232·57 M.P.H.







THREE OF THE CHALLENGERS : *Top* (GT. BRITAIN) : THE GLOSTER-NAPIER III (700 H.P. NAPIER "LION"). *Centre* (GT. BRITAIN) : THE SUPERMARINE-NAPIER S.4 (700 H.P. NAPIER "LION"). *Bottom* (ITALY), THE MACCHI M.33 FLYING-BOAT (500 H.P. CURTISS D.12).

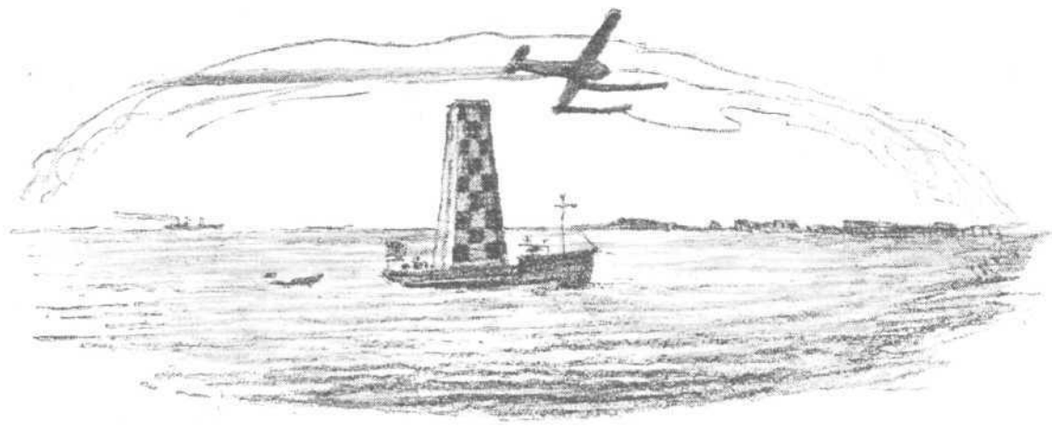


READY FOR BUSINESS : DE BRIGANTI, ONE OF THE ITALIAN PILOTS, LEAVING THE SLIPWAY IN HIS MACCHI M.33 FOR THE ELIMINATING TRIALS.



AMERICA'S SECOND VICTOR : LIEUT. "JIMMY" DOOLITTLE, U.S. ARMY, WHO SCORED A SECOND WIN FOR AMERICA IN THE 1925 CONTEST.

1926



HAMPTON ROADS

VICTORY having fallen twice already, within three years, to America, the Ninth Schneider Trophy contest, held in 1926, would decide whether or not she would be able to hold it "for keeps." Unfortunately, although the British Air Ministry was anxious to assist in regaining the Trophy, it was found that it would be impossible to complete a team of challengers in time for the contest. Thus there were no British entries for this year's contest.

At first it looked as though America would once again be the only one in the contest, when Italy came forward and entered a full team. The Schneider Trophy was thus given a chance of another lease of life.

The contest was originally scheduled for October 24, but at the request of Italy was postponed to November 11 (preceded by the eliminating trials on November 10), to be flown at Hampton Roads. The course was a triangular one of 50 km., starting and finishing at the southern end of Newport News wharf, with turning points at the northern end of the Naval Operating Base, Hampton Roads, and a point 15·9 km. away to the north-east. This course had to be covered seven times, giving a total distance of 350 km. or 188·86 sea miles.

While the contest itself was free from serious accident, there were, unfortunately, tragedies associated with it. Lieut. F. H. Conant, one of the American Navy pilots chosen for the contest, was killed whilst flying, in a Service machine, from Washington to Norfolk after having tested one of the Schneider racers. Marchese Centurione, one of the Italian Schneider pilots, also lost his life, when testing one of the Macchi racers at Schiranna Air Station.

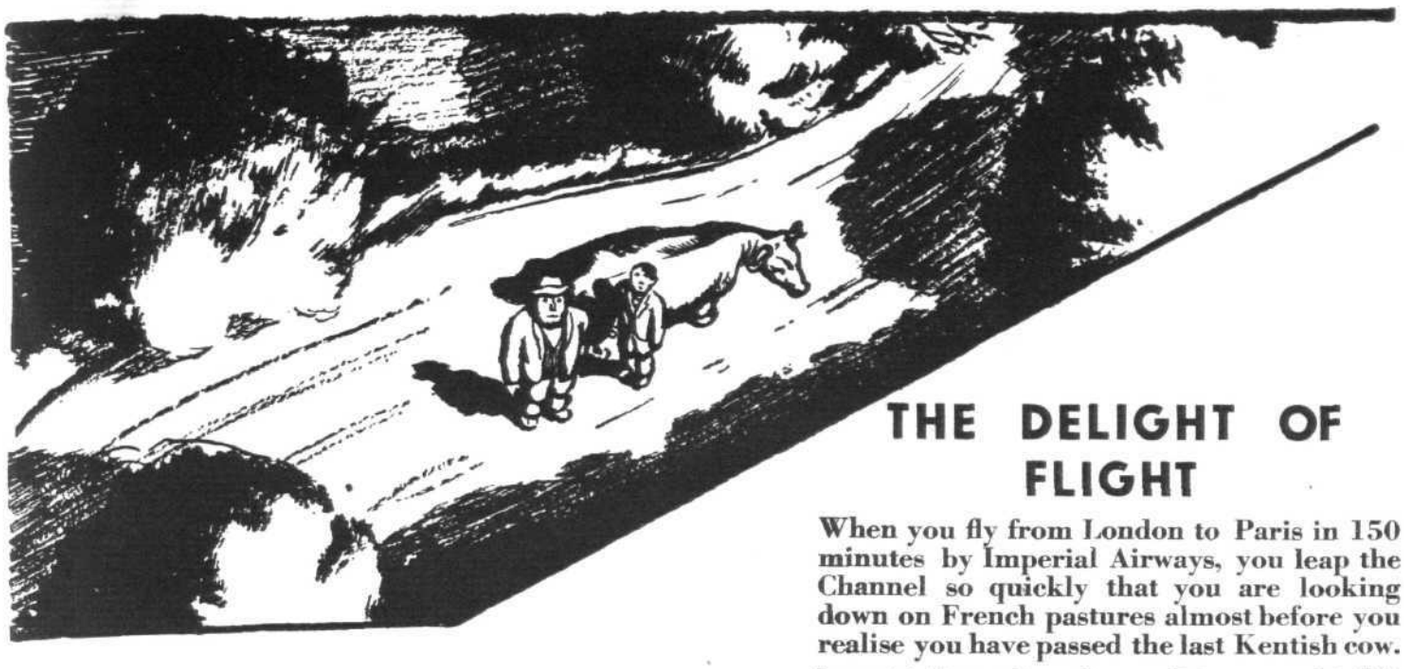
The American defending team consisted of the following: Lieut. G. T. Cuddihy, on a Navy-Curtiss R3C-4 twin-float biplane, 700 h.p. Curtiss V-1550; Lieut. F. Schilt, on a Navy-Curtiss R3C-2 twin-float biplane, 600 h.p. Curtiss V-1400; and Lieut. Tomlinson on a Navy-Curtiss-Packard R3C-3, 700 h.p. geared Packard V-1500. All three machines were last year's Schneider planes, "cleaned up," etc.

The Italian team was composed of Maj. de Bernardi, Capt. A. Ferrarin, and Lieut. A. Bacula—all flying Macchi M-39 twin-float monoplanes, fitted with 800 h.p. Fiat engines.

On November 10 a start was made with the navigability and mooring tests, although weather conditions were far from ideal. Capt. Ferrarin went up, and soon after he started the wind rose to some 40 m.p.h., while a heavy downpour of rain made matters exceedingly trying for him. He managed to make a safe landing and taxied back to shore. Lieut. Cuddihy ascended in the afternoon and covered the course at 240 m.p.h., but conditions got so bad that it was decided to postpone the trials to November 11 and 12 and hold the contest itself on November 13.

On November 11, Maj. de Bernardi, on the Macchi-Fiat (No. 5) went for his navigability test, which he passed successfully, but when being towed to the buoy for the mooring test, the motor launch damaged one of the floats, and the machine had to be brought hurriedly ashore. As this was an accident due to "outside" carelessness, Bernardi was allowed to repair his float, and he completed the mooring test next morning. Lieut. Schilt also completed his tests on Curtiss R.3C-2 (No. 6), which, incidentally, was the winner of the 1925 Schneider Trophy. Lieut. Ferrarin attempted to pass his tests also, but was forced down in Chesapeak Bay, where he was "marooned" for some hours until towed back in the dark!

Lieut. Cuddihy was the first to pass his tests the next day, and then Lieut. Tomlinson started his. On alighting, however, he flattened out too soon, and crashed the machine, having a marvellous escape himself. The others subsequently passed their tests, including Tomlinson, on the reserve Curtiss "Hawk" (Curtiss D.-12).



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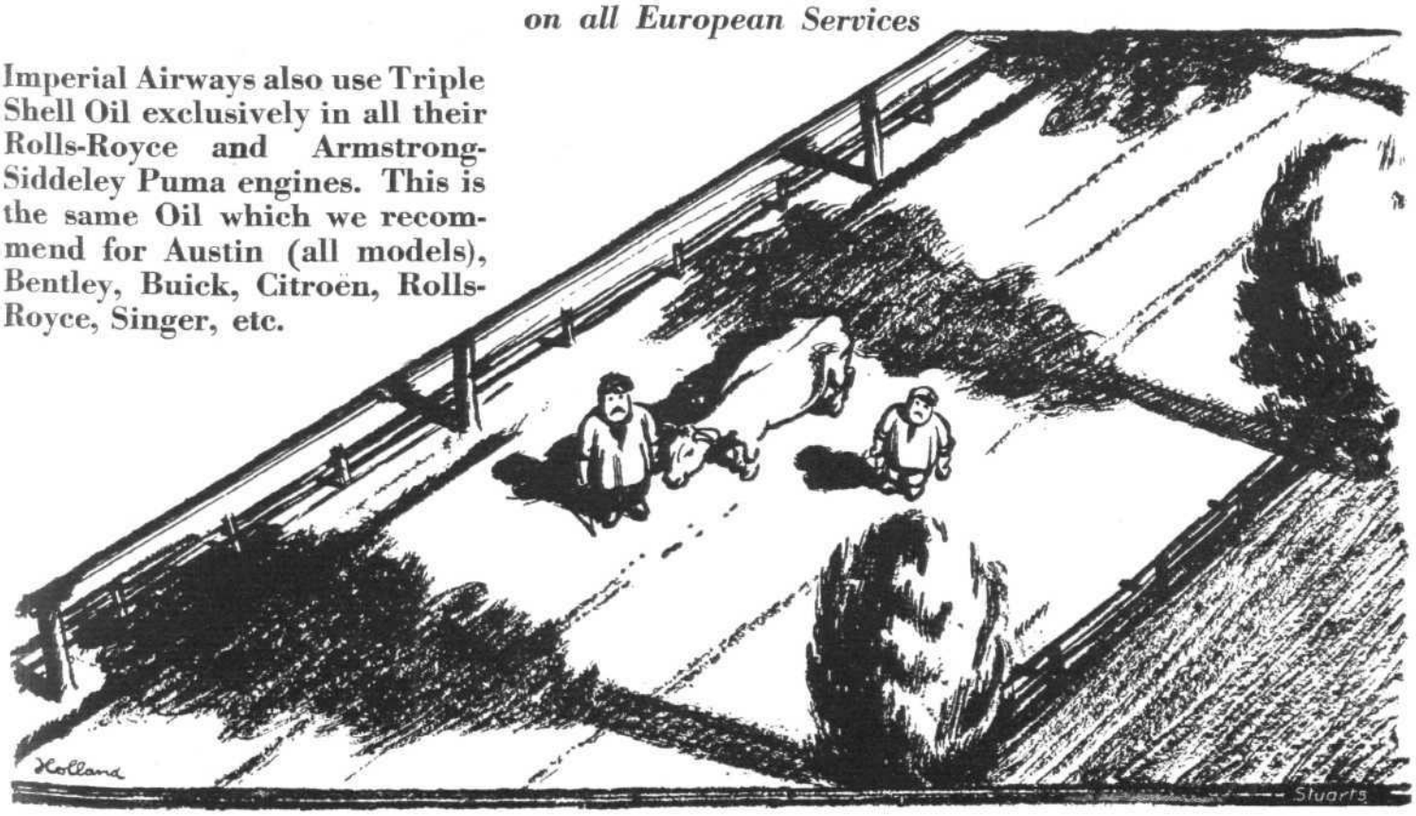
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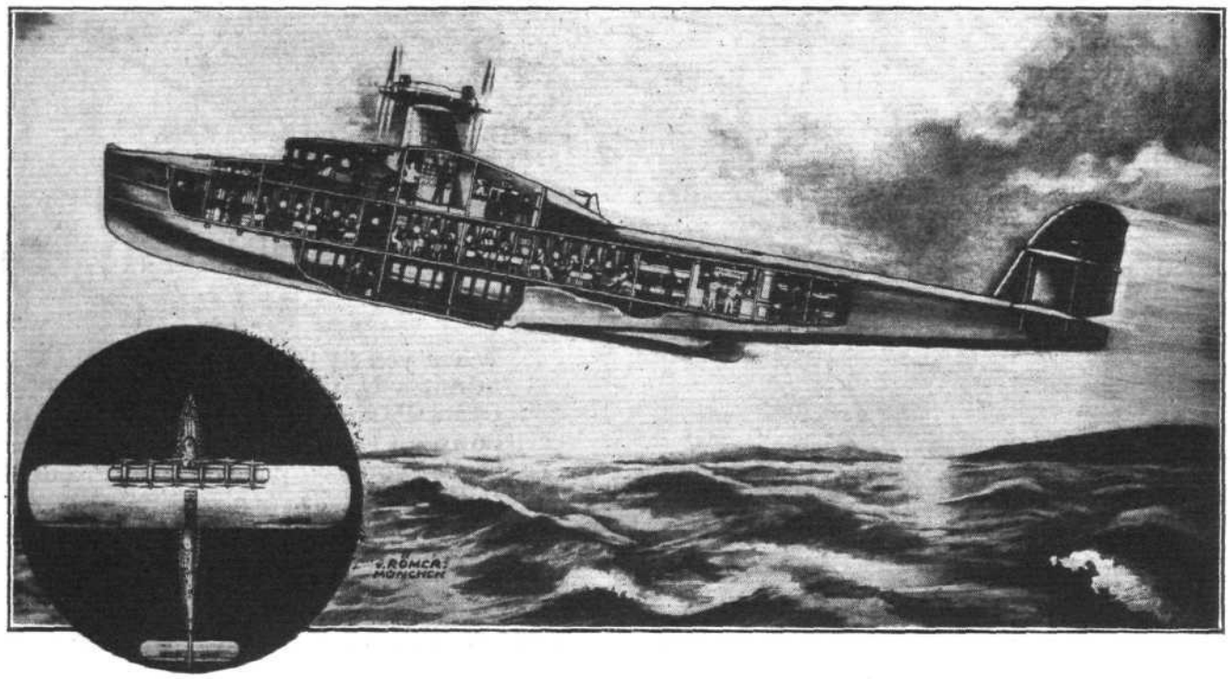
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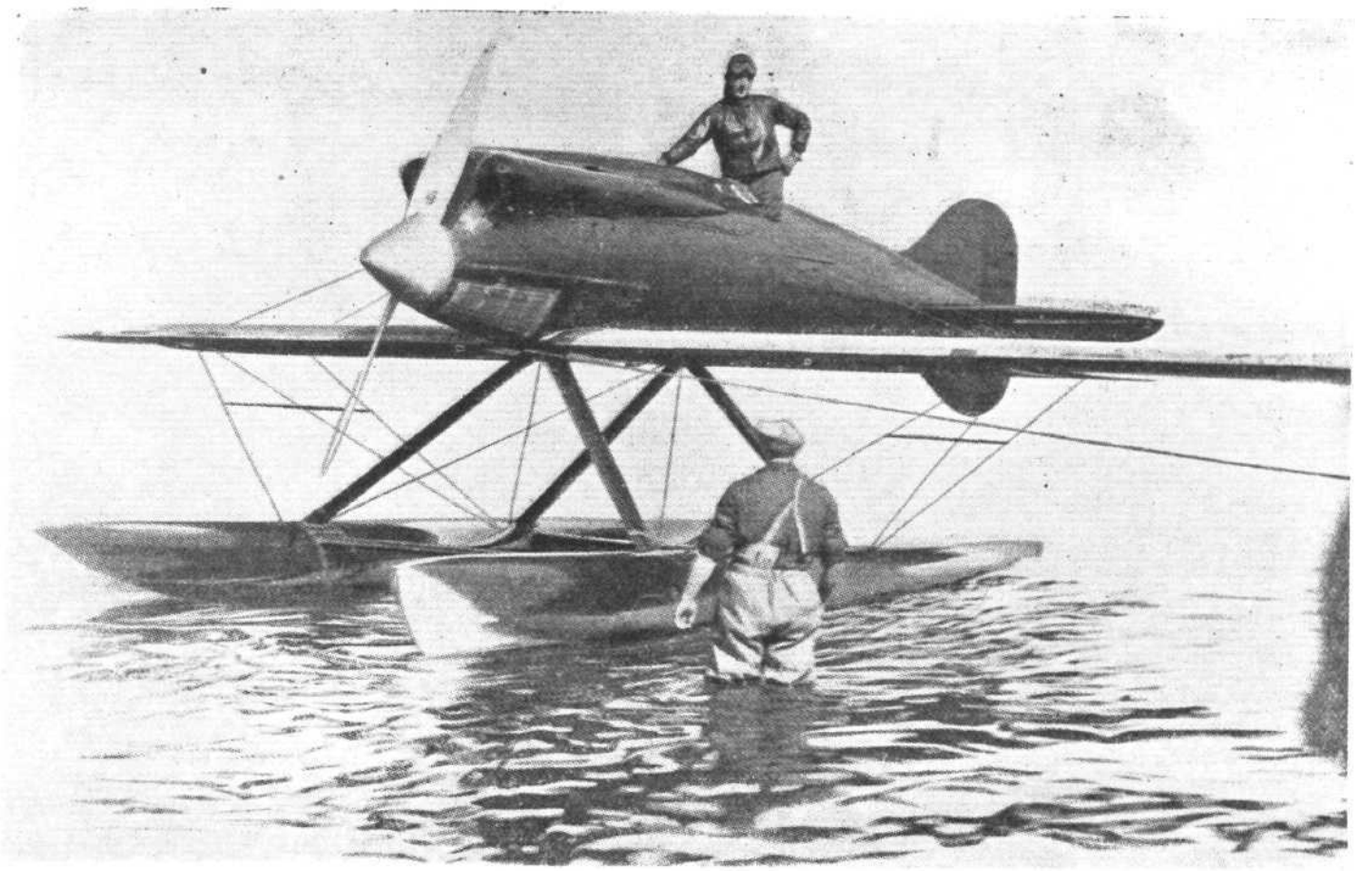
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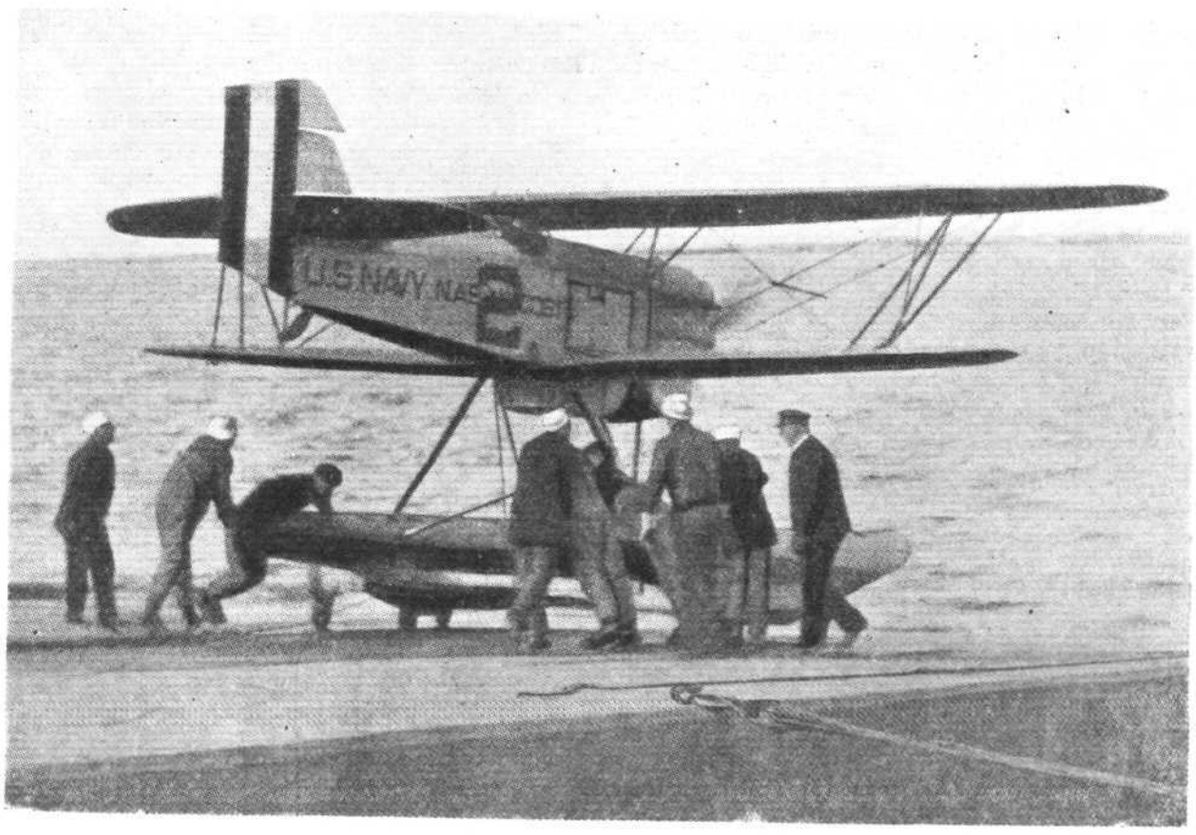
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MAJ. DE BERNARDI'S MACCHI M.39 MONOPLANE, WITH 800 H.P. FIAT, ON WHICH HE WON THE TROPHY FROM AMERICA AT HAMPTON ROADS, 1926. HIS SPEED WAS 246·496 M.P.H.



"ALSO FLEW": THE RESERVE STANDARD "HAWK" SEAPLANE (500 H.P. CURTISS D.12) ON WHICH LIEUT. TOMLINSON, U.S. NAVY, SECURED FOURTH PLACE WITH 137 M.P.H.!



LIEUT. CUDDIHY'S CURTISS R.3C.4 RACER, 700 H.P. CURTISS V.1550, WHICH WAS NOT FAR BEHIND THE WINNER UNTIL FORCED DOWN ON THE LAST LAP.

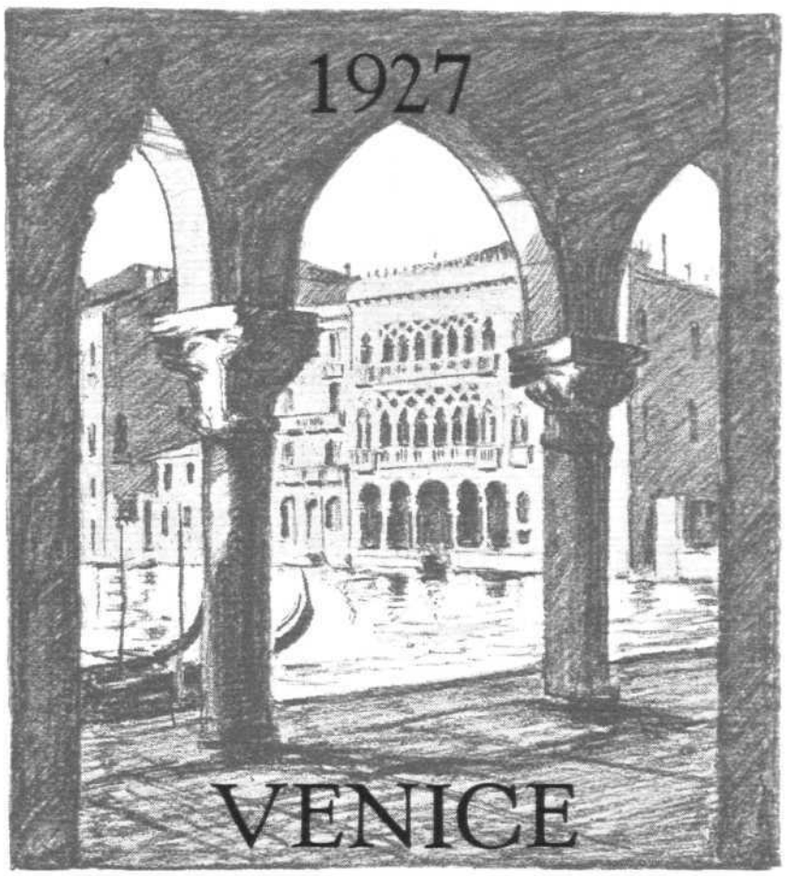
The first away in the actual contest, on November 13, was Bacula, on Macchi-Fiat No. 1, followed five minutes later by Tomlinson in the Curtiss "Hawk." Ferrarin, in No. 3 Macchi, should have started next, but as he was not ready, Cuddihy on the Curtiss R3C-4, No. 4, was sent off, Ferrarin following one minute later. Meanwhile, Bacula completed his first lap, at an average speed of 209·5 m.p.h. Tomlinson completed his first lap at 137·3 m.p.h., and Cuddihy—one minute behind him—at 232·4 m.p.h.

Then Bernardi (Macchi No. 5), and Schilt (Curtiss R3C-2, No. 6) were sent off. As the last man went away, Ferrarin commenced his third lap, at the conclusion of which he retired with a broken oil pipe. On his second lap he had touched 243 m.p.h. An indication as to the result of the contest was given by de Bernardi's first lap speed of 239·4 m.p.h. His fastest lap, the third, was at 248·5 m.p.h., while the best American effort was Cuddihy's fifth lap, at 242·1 m.p.h.—but he had to retire on his seventh lap with petrol pump failure.

De Bernardi proved an easy winner, for he completed the full course at an average speed of 246·496 m.p.h., while Lieut. Schilt came second with 231·363 m.p.h. Leiut. Bacula was third with 218 m.p.h., while Lieut. Tomlinson came in fourth with the terrific speed of 136·953 m.p.h.!



THE TROPHY'S SAVIOUR: MAJ. DE BERNARDI, WHO WON THE 1925 SCHNEIDER TROPHY FOR ITALY, AND THUS PREVENTED THE TROPHY BECOMING THE ABSOLUTE PROPERTY OF AMERICA.



SERVICE machines and service pilots were entered by Great Britain for the 1927 Schneider Contest, this being the first time in the history of the contest that our Government had taken an active, as well as financial, part in affairs. The French, Italian, and American Governments had, of course, been doing this in most of the previous contests, and hitherto it was to private enterprise that Britain had to look for her part in the contest. As it turned out, the 1927 contest resolved itself into a duel between the British and Italian Air Services!

Italy, having won (as well as saved) the Schneider Trophy in 1926, she became "host" for the following contest—and incidentally, it had been decided to hold the contest every second year after 1926, but at the request of Italy (now thoroughly air-minded) 1927 was fixed for this instead of 1928. So Italy was once again the battle field, this time on the Lido at Venice, the course being similar to that of the two previous contests, *i.e.*, a triangle one of 50 km., covered seven times and giving a total distance of 350 km., or 188·86 sea-miles.

The start and finish was located off the Excelsior Hotel, near the seaplane station, with turning points at Porto de Malmocco and Chioggia, respectively. The date of the contest was fixed for September 25, the navigability tests being held on September 23.

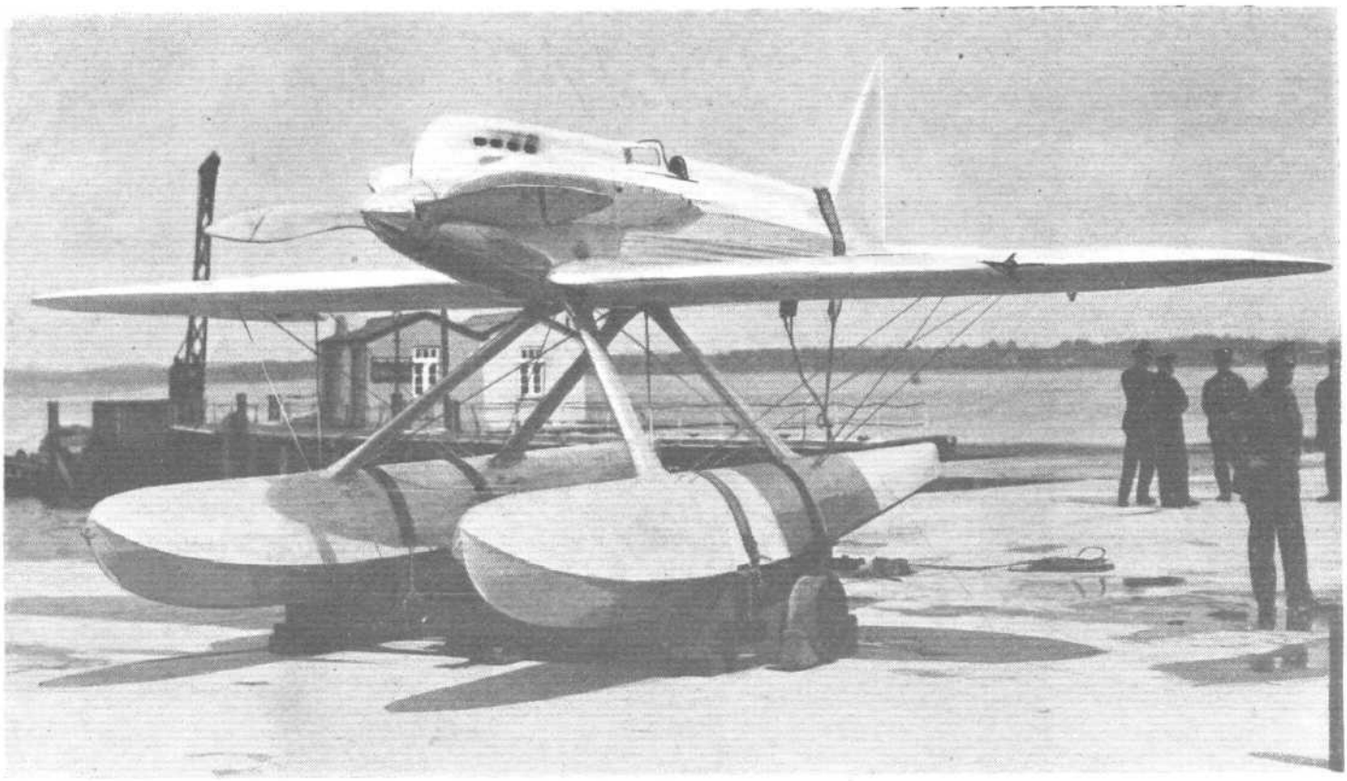
As previously indicated, only the British and Italian entries materialised, although up to the last minute the American entry, a "hush-hush" racer fitted with a mystery Packard engine and piloted by Williams, was a possible competitor, but he arrived at Venice too late to get in the necessary practice, and so withdrew from the contest. Seven special high-speed machines were produced to the order of the British Air Ministry, and six of these were sent to Venice. These consisted of three Supermarine-Napier twin-float monoplanes, two Gloster-Napier IV twin-float biplanes, and a Short-Bristol "Crusader" twin-float monoplane. The Supermarine and Gloster machines were all fitted with special Napier "Lion" racing engines (the Gloster and one of the S.5's having geared models), while the Short "Crusader"—which was entered by Lieut.-Col. W. A. Bristow—was fitted with an air-cooled Bristol "Mercury" engine.

Unfortunately, this latter machine met with a mishap which put it out of the Contest, for during a trial flight it crashed into the sea, the pilot, Flying Officer Schofield, being thrown out and escaping serious injury in a marvellous way. As it was, he had to swim to the sinking machine and hang on for some time before being rescued.

The British team included the following R.A.F. pilots—Sqd.-Ldr. N. H. Slatter, Flight-Lieuts. S. M. Kinkead, S. N. Webster, and O. E. Worsley, and Flying Officer H. M. Schofield. Flying Officer T. H. Moon was Technical Officer for the team.

Considerable mystery surrounded the Italian machines, which did not come before the public gaze until a few days before the Contest. They were all Macchi-Fiat M.-52 twin-float monoplanes—very similar in appearance to the Supermarine S.5—fitted Fiat engines. The Italian team consisted of Maj. de Bernardi, Capts. A. Ferrarin, G. Guasconi, and F. Guazzetti.

The navigability and mooring tests were success-



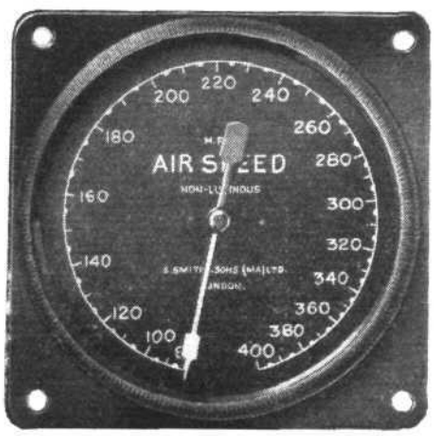
THE TENTH SCHNEIDER WINNER: THE SUPERMARINE-NAPIER S.5 (GEARED NAPIER "LION") ON WHICH FLIGHT-LIEUT. S. N. WEBSTER WON THE CONTEST FOR 1927. IT WAS AN IMPROVED DEVELOPMENT OF THE PREVIOUS YEAR'S S.4.



ANOTHER BRITISH CHALLENGER: THE GLOSTER-NAPIER IV (GEARED NAPIER "LION") BIPLANE. PILOTED BY FLIGHT-LIEUT. KINKEAD, IT PUT UP AN EXCELLENT PERFORMANCE UNTIL SPINNER TROUBLE FORCED IT OUT OF THE RACE IN THE SIXTH LAP.
(FLIGHT Photo.)

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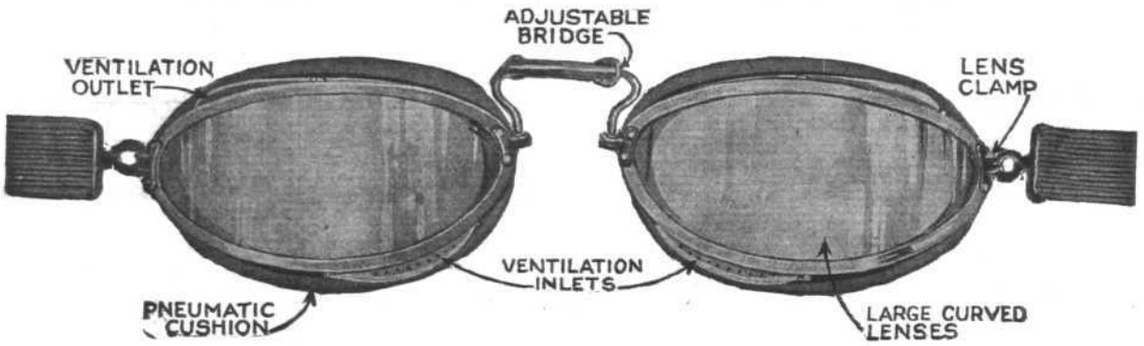
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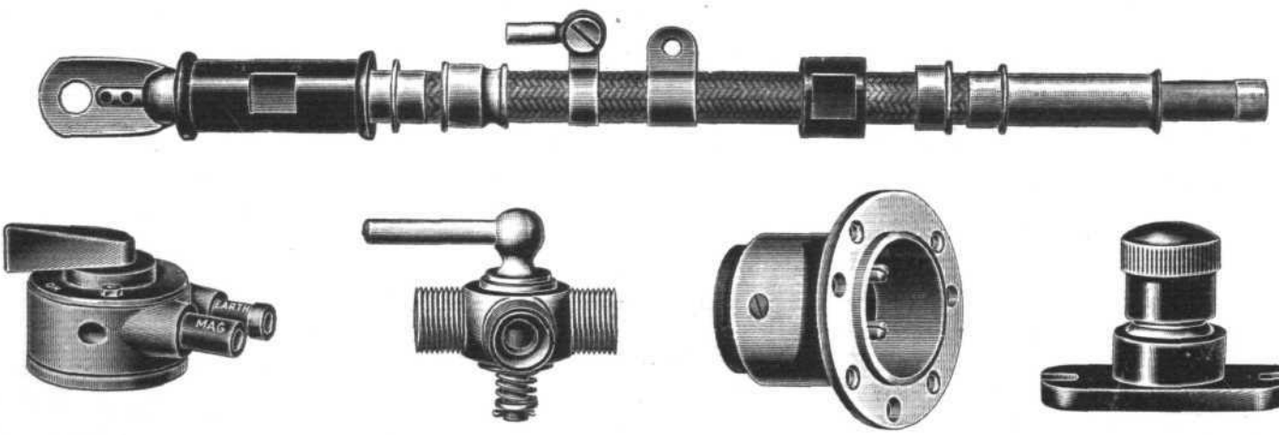
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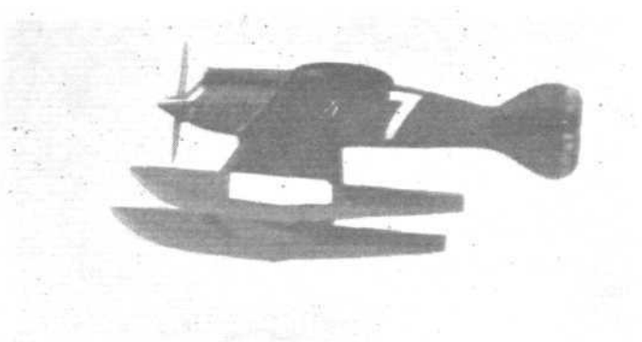
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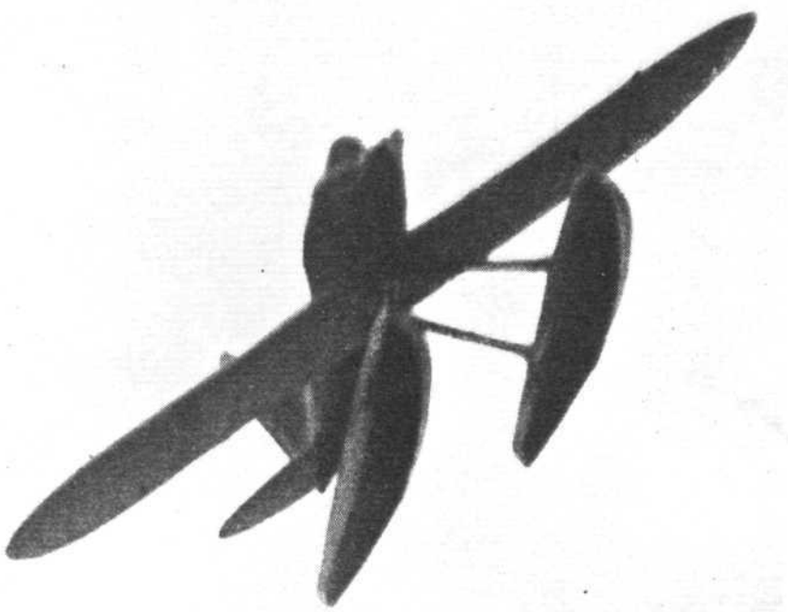
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AN ITALIAN DEFENDER: CAPT. FERRARIN STARTING ON THE MACCHI M.52 MONOPLANE. (*FLIGHT Photo.*)

A FINE BANK BY WEBSTER ON THE SUPERMARINE-NAPIER S.5 MONOPLANE. (*FLIGHT Photo.*)





BRITAIN'S THIRD SCHNEIDER VICTOR: FLIGHT-LIEUT. S. N. WEBSTER, WHO WON THE TENTH SCHNEIDER TROPHY CONTEST AT LIDO, VENICE, IN 1927. (*FLIGHT Photo.*)

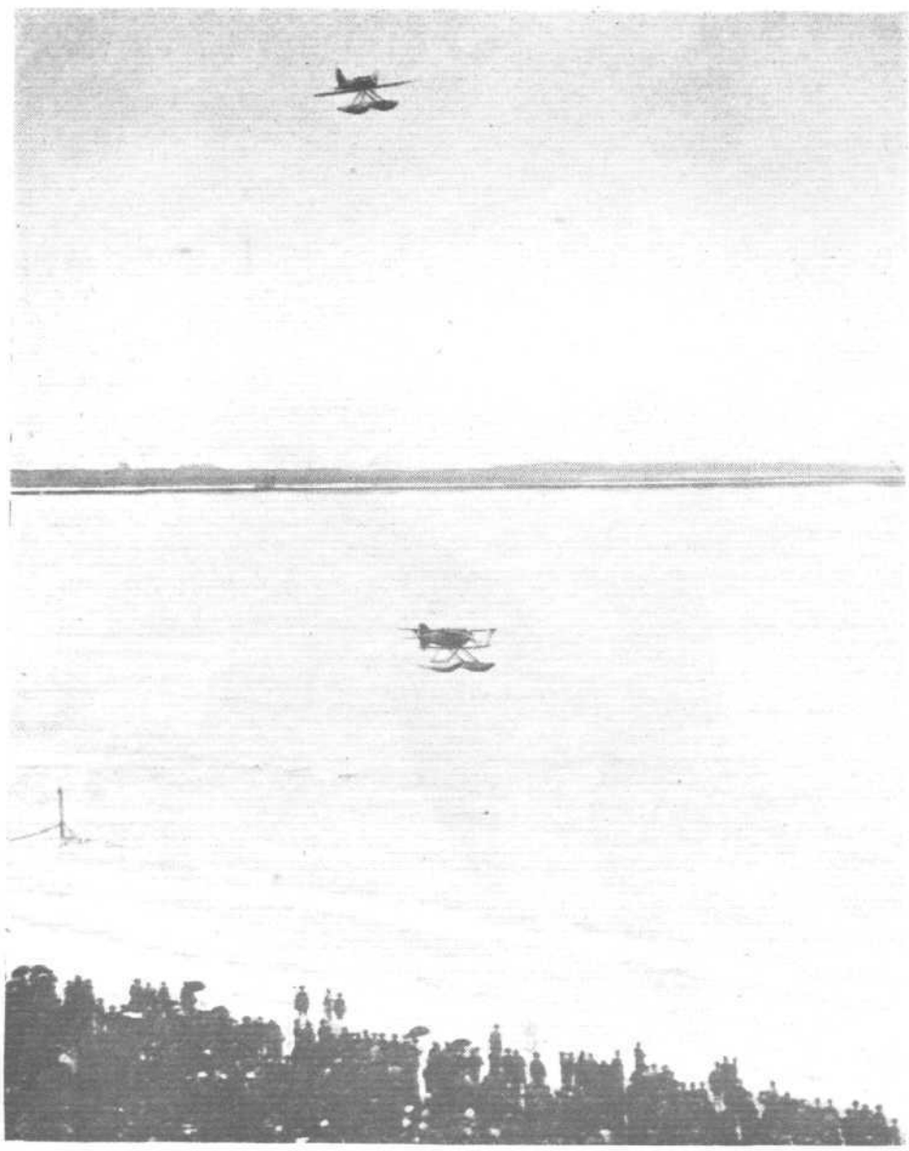
fully carried out by the British and Italian teams on September 23, but not without some minor incidents.

On Sunday, September 25, the day fixed for the Contest—the weather was much too bad for a start to be made, and so it was postponed to the following day, which was only a little better early in the morning, but improved as the day wore on. At 2.30 p.m. the starting gun was fired, and No. 1, Kinkead on the Gloster-Napier IV, was sent off, followed, at five-minute intervals, by No. 2, de Bernardi on the Macchi M.52; No. 4, Webster on the geared Supermarine-Napier S.5; No. 5, Guazzetti on the Macchi M.52; No. 6, Worsley on the direct-drive Supermarine-Napier S.5; and No. 7, Ferrarin (Macchi).

Shortly after the last man had left he was seen returning and making for the St. Andrea air station, where he landed with engine trouble. A similar fate befell de Bernardi, who only completed one lap. Guazzetti, Italy's only hope, retired with engine failure on his seventh lap.

Kinkead, on his third lap, accomplished the remarkable speed of 289 m.p.h., but after his fifth lap he experienced spinner trouble, and he also had to retire. This left only Webster and Worsley in the race, and both fought it out to the end.

Webster's average speed for the course was 281·656 m.p.h. (450·64 k.p.h.), and Worsley's, 272·96 m.p.h. (439·47 k.p.h.)—so Webster was declared the winner, and brought back the Trophy to England.



NECK AND NECK: FLIGHT-LIEUT. WORSLEY ON THE SUPERMARINE-NAPIER S.5 (DIRECT-DRIVE) WAS, ON ONE OCCASION, OVERHAULED BY FLIGHT-LIEUT. KINKEAD ON THE GLOSTER-NAPIER IV (GEARED) BIPLANE, AS SHOWN IN OUR PICTURE. (*FLIGHT Photo.*)

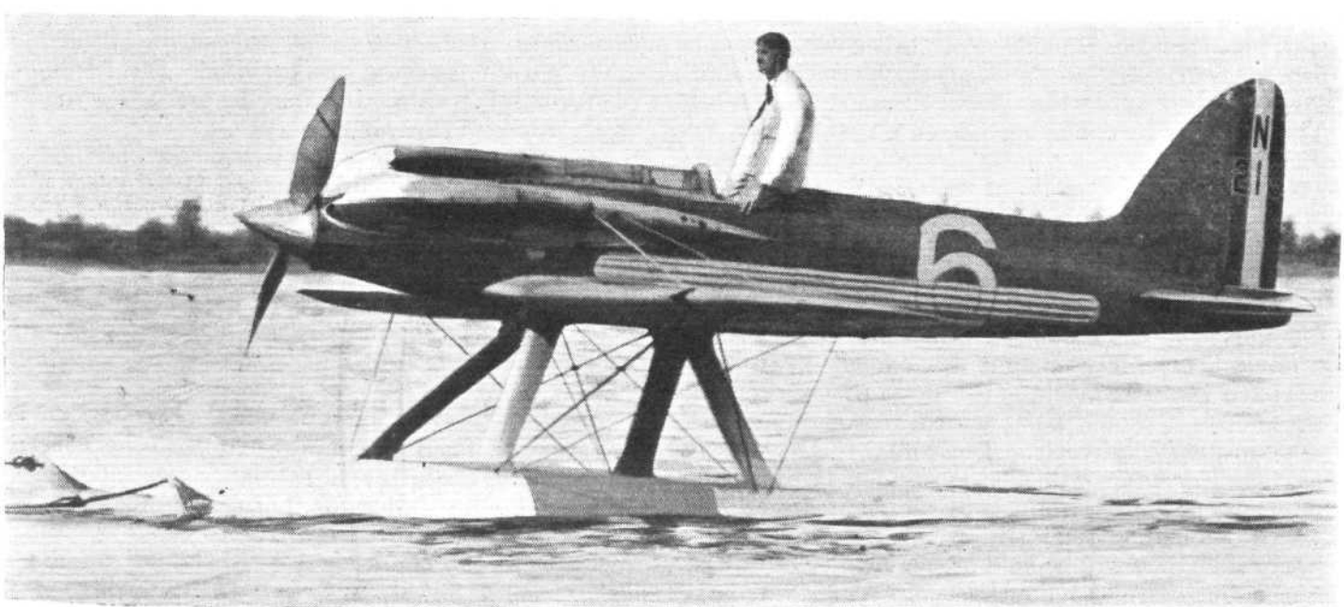
THE MACCHI M.52 MONOPLANE (FIAT), THREE OF WHICH MADE A GALLANT BUT UNSUCCESSFUL EFFORT TO RETAIN THE TROPHY FOR ITALY. IN SOME WAYS THIS MACHINE RESEMBLES THE BRITISH SUPERMARINE MONOPLANES.



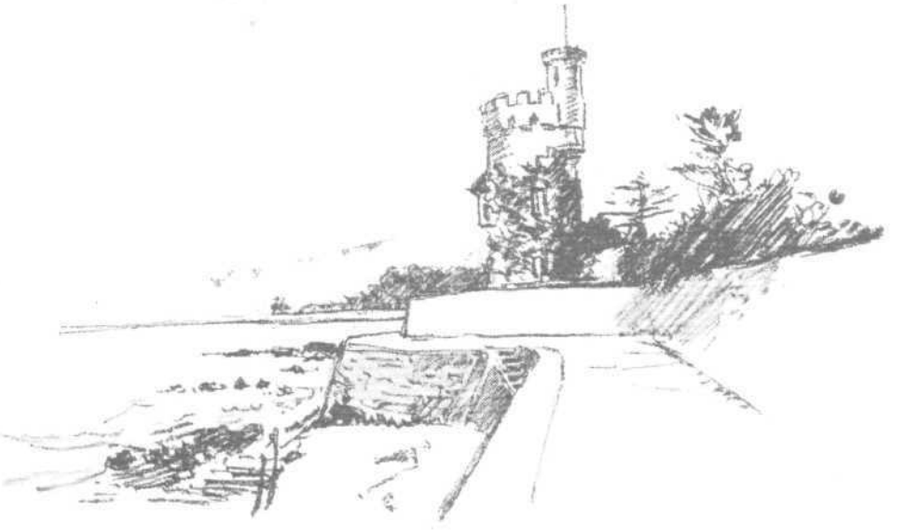


FIRST! FLIGHT-LIEUT. S. N. WEBSTER, ON THE SUPERMARINE-NAPIER (GEARED) S.5, CROSSING THE FINISHING LINE AT LIDO, SEPTEMBER 26, 1927, AND WINNING THE SCHNEIDER TROPHY FOR BRITAIN WITH AN AVERAGE SPEED OF 281·656 M.P.H. (*FLIGHT Photo.*)

SECOND! FLIGHT-LIEUT. WORSLEY, ON A SIMILAR SUPER-MARINE-NAPIER S.5, BUT WITH DIRECT-DRIVE ENGINE, OBTAINED SECOND PLACE, WITH AN AVERAGE SPEED OF 272·96 M.P.H. HE IS SEEN SITTING IN HIS MACHINE. (*FLIGHT Photo.*)



1929



RYDE

AS a result of the British victory at Venice in 1927, this year's contest for the Schneider Trophy is being held in Great Britain. The Royal Aero Club of the United Kingdom, the body governing sporting flying in this country, has been entrusted with the organisation of the contest, under the regulations of the *Fédération Aéronautique Internationale*, the international body governing sporting flying, and to which the aero clubs of most nations are affiliated. The Royal Aero Club, in consultation with the British Air Ministry, chose the waters of the Solent and Spithead for the 1929 contest, and laid down a course of 50 km. (31·02 English land miles) in the form of a quadrilateral, with small angles off West Cowes and Hayling Island, and larger angles off Seaview, I.W., and Southsea. The regulations for the 1929 contest provide that this course must be flown seven times (in an anti-clockwise direction), giving a total of 350 km. (217·14 English land miles). The starting and finishing line is off Ryde pier, Isle of Wight.

NAVIGABILITY TRIALS

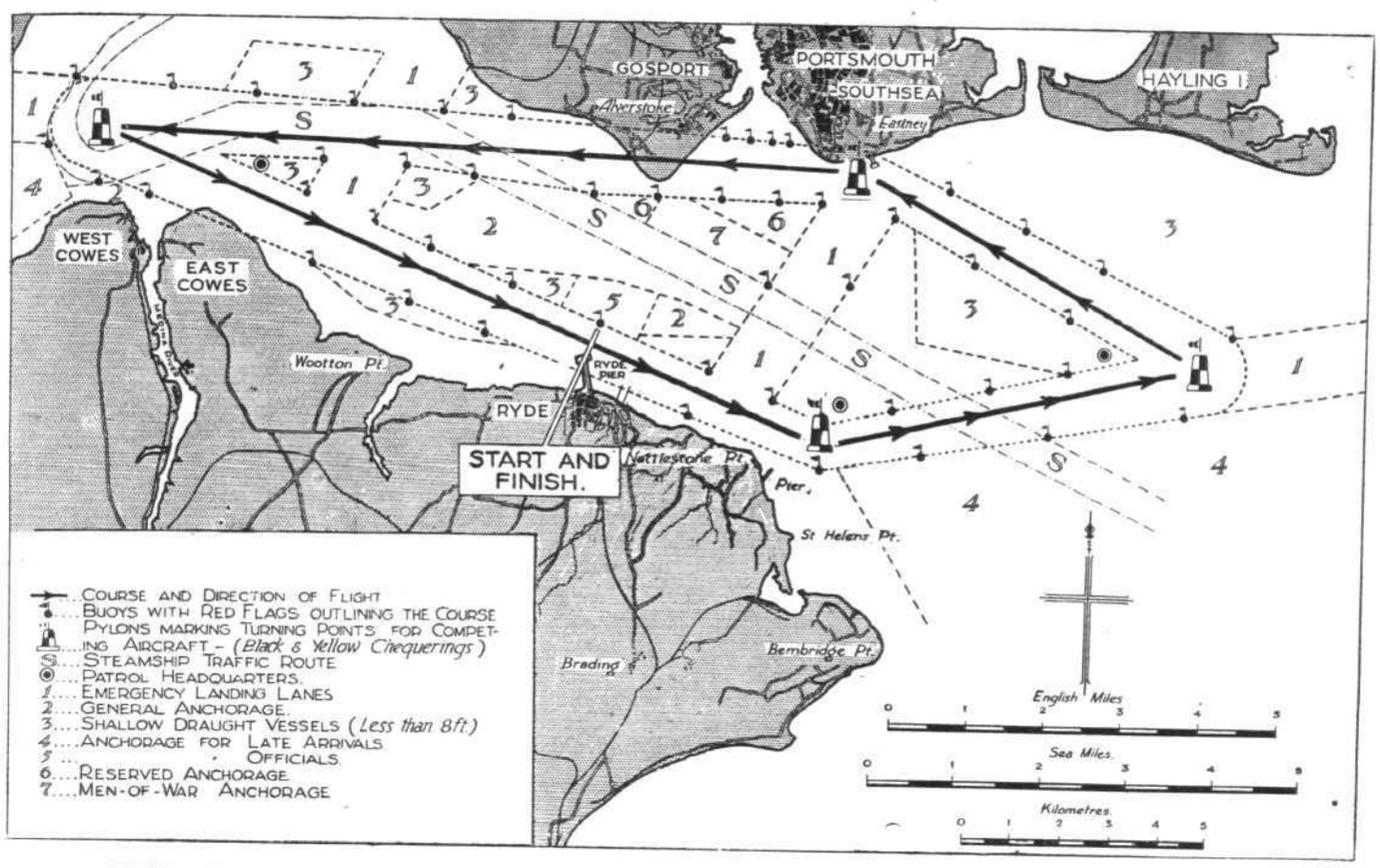
Before being permitted to fly in the actual contest, competing aircraft are required to pass a series of navigability and seaworthiness trials. These were introduced in the regulations in order to ensure that "freak" machines should be excluded, it being assumed that if a machine is able to pass successfully these tests it should be at least a reasonably serviceable and useful aircraft. The actual locality for the navigability trials will not be decided until the last moment, but if the wind is in the right direction on the day of the trials (Friday, September 6) it is likely that they will be held in the vicinity of Calshot, at the southern end of Southampton Water. Weather conditions may, however, be such that this is not possible, and some other locality will then be chosen lying within the area bounded by the following lines: Cowes–Stone Point (on the Hampshire coast)–the Agwi oil tanks–Hamble (on the eastern shore of Southampton Water)–along the coast to Lee-on-Solent-Kingsquay (Isle of Wight)–Cowes.

Competing machines are required, in the navigability trials, to complete a course measuring between five and 10 nautical miles. They must *taxi* over the starting line, then rise and continue over the course. Marked out by buoys on the course are two distances of one-half nautical miles each. These two distances must be covered by the machines *taxying* at a speed of not less than 12 knots, the machines rising into the air and covering the space between the two half-mile distances in flight. Upon rising from the last of the two, the machines finish the course in flight, but alight again just before the end of the course, and cross the finishing line taxying. If a first test is unsuccessful, a competitor may be granted permission to try a second time, but no more.

Immediately after completing the navigability tests, the machines will be moored to buoys, at which they have to remain, without attention, for six hours with no one on board. This is to ensure that the floats have not sprung a leak. If a machine is in danger of sinking, and has to be removed from its buoy, it will be disqualified from taking part in the contest.

THE ACTUAL SPEED TRIALS

The date fixed for the actual Schneider Trophy Contest is Saturday, September 7. Should the weather be unsuitable for flying, the organisers may postpone the contest from day to day. As already mentioned, the course is a quadrilateral of 50 km. (31·02 land miles), and has to be covered seven times. Arrangements have been made for erecting



THE 1929 SCHNEIDER COURSE

Table of Lap Times and Speeds

Lap Time		Speed		Lap Time		Speed	
M.	s.	Km./hr.	M.p.h.	M.	s.	Km./hr.	M.p.h.
5	0	*600·00*	*372·24*	5	46	520·2	322·9
5	1	597·9	371·6	5	47	518·8	322·0
5	2	596·1	370·1	5	48	517·3	321·1
5	3	594·1	368·6	5	49	515·9	320·2
5	4	592·1	367·5	5	50	*514·32*	*319·25*
5	5	590·2	366·2	5	51	512·8	318·4
5	6	588·2	364·9	5	52	511·3	317·4
5	7	586·3	363·6	5	53	509·9	316·5
5	8	584·8	362·4	5	54	508·5	315·5
5	9	582·5	361·2	5	55	507·5	314·6
5	10	*580·61*	*360·09*	5	56	505·6	313·8
5	11	579·0	358·9	5	57	504·2	312·9
5	12	577·0	357·8	5	58	502·8	312·0
5	13	575·1	356·7	5	59	501·3	311·1
5	14	573·2	355·5	6	0	*500·00*	*310·20*
5	15	571·5	354·4	6	1	498·5	309·4
5	16	569·7	353·3	6	2	497·1	308·5
5	17	567·9	352·2	6	3	495·6	307·6
5	18	566·1	351·1	6	4	494·4	306·7
5	19	564·2	350·1	6	5	493·0	305·8
5	20	*562·85*	*349·19*	6	6	491·6	305·0
5	21	560·8	348·0	6	7	490·3	304·1
5	22	558·9	346·8	6	8	489·0	303·2
5	23	557·1	345·7	6	9	487·7	302·4
5	24	555·4	344·6	6	10	*486·46*	*301·65*
5	25	553·7	343·6	6	11	485·1	300·8
5	26	552·0	342·6	6	12	483·9	300·0
5	27	550·3	341·5	6	13	482·4	299·2
5	28	548·6	340·4	6	14	481·3	298·5
5	29	546·9	339·3	6	15	480·0	297·7
5	30	*545·45*	*338·40*	6	16	478·7	297·0
5	31	543·7	337·2	6	17	477·4	296·3
5	32	542·1	336·1	6	18	476·1	295·5
5	33	540·3	335·2	6	19	474·9	294·8
5	34	538·7	334·3	6	20	*473·93*	*294·03*
5	35	537·1	333·4	6	21	472·8	293·3
5	36	535·5	332·5	6	22	470·9	292·5
5	37	533·9	331·4	6	23	469·5	291·6
5	38	532·3	330·4	6	24	468·5	291·0
5	39	530·8	329·5	6	25	467·2	290·2
5	40	*529·10*	*328·25*	6	26	466·1	289·5
5	41	527·6	327·5	6	27	464·8	288·7
5	42	526·1	326·6	6	28	463·5	287·9
5	43	524·8	325·7	6	29	462·2	287·1
5	44	523·2	324·8	6	30	*461·54*	*286·34*
5	45	521·7	323·8	6	31	460·3	285·5

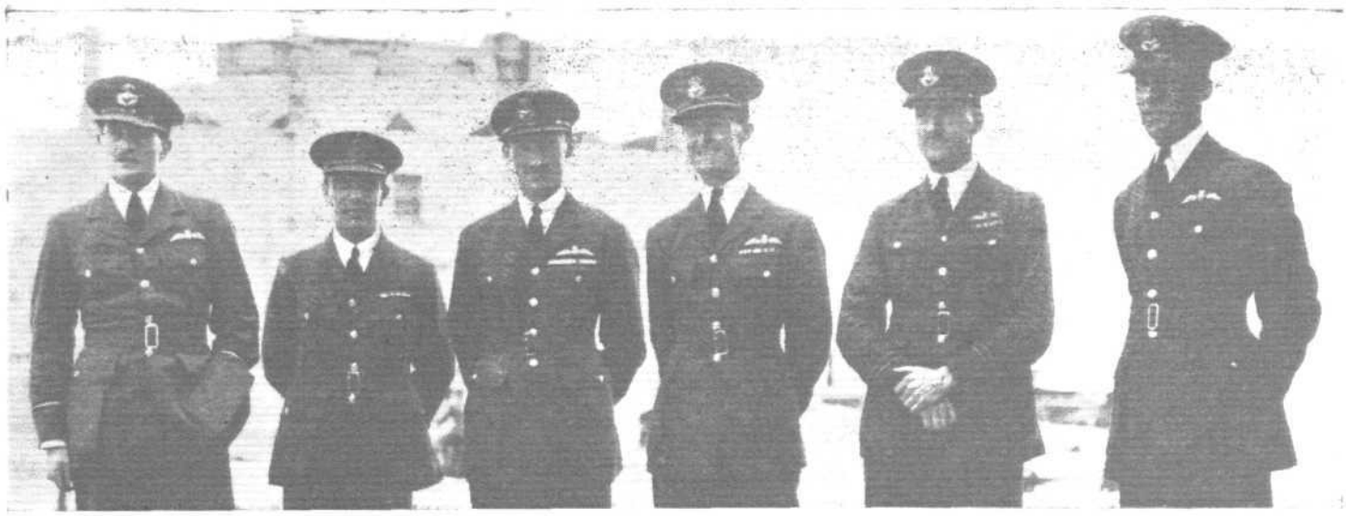
scoring boards at various places along the course, and on these will be displayed the lap times of the various competitors. In order to assist readers of FLIGHT who may not be able, for any reason, to obtain the lap times, but who desire to do their own timing, we are giving, on this page, a table of lap times and speeds, the latter both in kilometres per hour and in miles per hour. It should be pointed out that we do not claim very great accuracy for this table, in which only the speed figures printed in italics have been calculated. Intermediate figures have been read off a graph plotted from the 10-second interval figures, and consequently are given to one decimal place only. The first competitor is due to start at 2 p.m.

The starting and finishing line is at Ryde, Isle of Wight, and machines will cross the line in flight both at the start and at the finish. Competing aircraft will be stationed at the Royal Air Force Base at Calshot, and the method of starting competitors will be as follows :—The machine about to start in the contest will take off from some convenient point (it may be at Calshot or it may be at some other position, reached by the machine either by taxying or on board one of the special pontoons produced for conveying the machines about) at a given signal, and will make ready to cross the starting line in flight. A time limit of 15 minutes is allowed from the time the pilot receives the signal to take off and until he crosses the starting line. If he crosses the line within this period, he will be timed from the moment of crossing the line. If he fails to get across the starting line in flight within the period, any extra time spent in getting away will be counted as flying time. Once the starting line has been crossed, the pilot continues to do his seven laps of the course.

An interval will occur between the starts of the various competitors, the length of the interval

depending upon the number of machines in the contest. In any case, it will not be less than 5 mins., and not more than 15 mins. This interval is intended to guard against too many machines going around the course at the same time, with consequent risk of collision.

The order of starting is decided by ballot, and the result of this year's ballot was: First, America; second, Great Britain; third, France; fourth, Italy. As America had entered one aircraft, Great Britain, France and Italy three each (the maximum



THE BRITISH SCHNEIDER TEAM, 1929: LEFT TO RIGHT, FLYING OFFICER H. R. D. WAGHORN, FLYING OFFICER T. H. MOON (TECHNICAL OFFICER OF THE TEAM), FLIGHT-LIEUT. D. D'ARCY GREIG, D.F.C., A.F.C., SQUADRON-LEADER A. H. ORLEBAR, A.F.C., FLIGHT-LIEUT. G. H. STAINFORTH, FLIGHT-LIEUT. R. L. R. ATCHERLEY (*FLIGHT photograph*)

permitted to each country), the starting order originally contemplated was, the machines carrying the corresponding numbers: 1, America; 2, Great Britain; 3, France; 4, Italy; 5, Great Britain; 6, France; 7, Italy; 8, Great Britain; 9, France; 10, Italy.

As neither France nor America is competing, and as the number of Italian machines taking part is, at the moment, uncertain, it is not possible to state definitely what will be the order of starting. Assuming that Great Britain and Italy each has three machines in the contest, the order and numbers should be: 2, Great Britain; 4, Italy; 5, Great Britain; 7, Italy; 8, Great Britain; 10, Italy.

ENTRIES FOR THE CONTEST

Originally, 10 machines had been entered for the 1929 Schneider Trophy Contest, one by America, three by France, three by Italy, and three by Great Britain. France announced, some time ago, that her machines would not be ready in time, and that, therefore, France would not be represented. The American entry, a private venture, as distinct from the Government entries of the other nations, is a monoplane with Packard engine, and was built for Lieut. Al. Williams, who was to have piloted the "Mercury" in the contest. Failing to get the machine to pass its flying tests in America, the United States Navy authorities have refused Williams permission to take part in the contest, and thus the American challenger is out of the running.

Italy has had the misfortune to lose several of the special racing seaplanes built for the 1929 Schneider Trophy Contest, and the number of machines which she will be able to put into the contest is, therefore, doubtful at the moment. At one time it was even feared that Italy would not take part, having asked for the contest to be postponed for a month, and the request having been refused because the Royal Aero Club has not, under the regulations, any right to postpone the date, except from day to day, on account of unfavourable weather conditions. However, largely by way of not spoiling the sport of the contest, Italy has promised to send some machines and pilots, and so Italian participation is almost certain. What the machines will be, and who will pilot them, has not been divulged at the time of going to press with the special Schneider Souvenir number of FLIGHT this week, although the information may possibly be forthcoming in time to be given elsewhere in the ordinary pages of this week's issue.

THE BRITISH DEFENDERS

Four machines were ordered by the British Air Ministry for the 1929 Schneider Trophy Contest: 2 Supermarine S.6 monoplanes, each fitted with a single Rolls-Royce "R"-type racing engine, and 2 Gloster VI monoplanes, each fitted with a Napier "Lion" racing engine. Brief descriptions of these machines and engines will be given later, but first a few words about the personnel of the British Schneider Team may be of interest.

The British team is composed of six Royal Air Force officers and a number of Royal Air Force mechanics, together constituting what is known as the High-Speed Flight of the R.A.F. This Flight was established originally at Felixstowe, where are the headquarters of the Marine Aircraft Experimental Establishment of the R.A.F. Some months ago, the High-Speed Flight was transferred to Calshot for training purposes, the R.A.F. personnel normally stationed there being transferred to other stations, so as to leave Calshot entirely free for the High-Speed Flight personnel and machines. The C.O. of the Calshot Base is Group-Captain E. R. C. Nanson, C.B.E., D.S.C., A.F.C.

The flying members of the High-Speed Flight are: Sqdn.-Ldr. A. H. Orlebar, A.F.C. (Captain of the Team); Flight-Lieut. D. D'Arcy Greig, D.F.C., A.F.C.; Flight-Lieut. G. H. Stainforth; Flying Officer R. L. R. Atcherley; and Flying Officer H. R. D. Waghorn. The Technical Officer of the High-Speed Flight is Flying Officer T. H. Moon,

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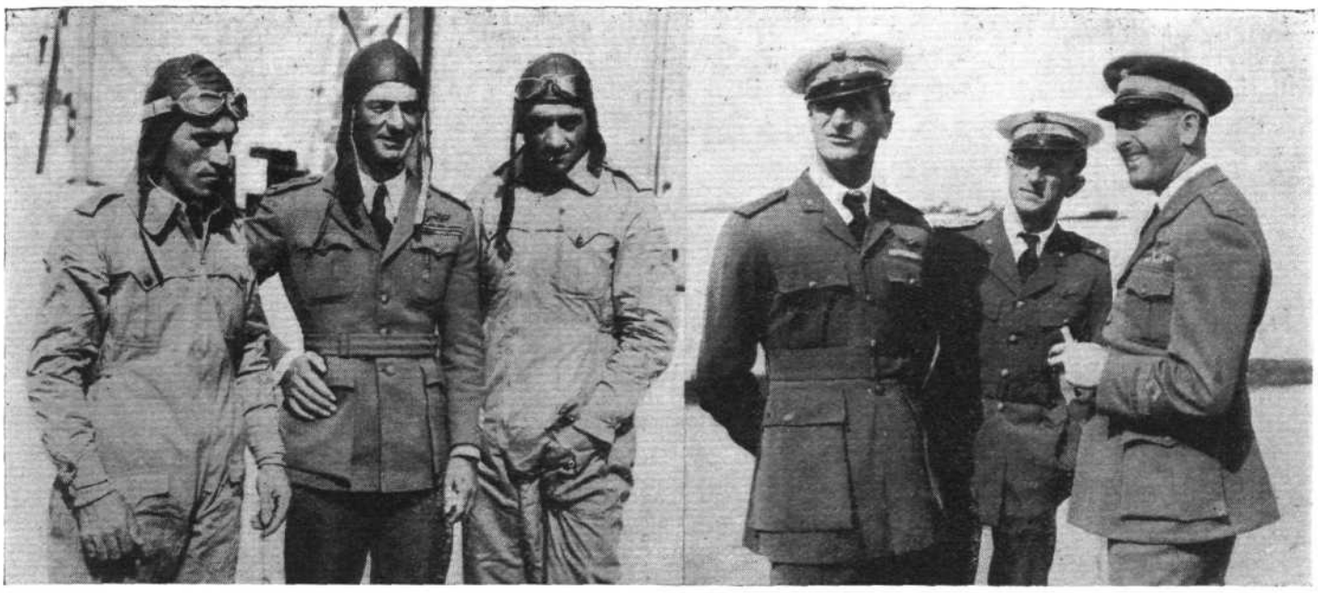
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THE ITALIAN SCHNEIDER TROPHY TEAM : FROM LEFT TO RIGHT, SERGT.-PILOT M. F. AGELLO, CAPT. A. CANAVERI, WARRANT OFFICER T. DAL MOLIN, FLYING OFFICER G. MONTI, FLYING OFFICER R. CADRINGHER, AND WING-COMMANDER M. BERNASCONI (CAPTAIN OF THE ITALIAN TEAM). (*FLIGHT Photos.*)

who was also Technical Officer of the Flight at Venice in 1927.

As no more than three machines of one nationality may compete in the contest, three officers will be selected to fly the three machines which Great Britain is entering. Unfavourable weather conditions having interfered a good deal with the training which the flying members of the team have been able to carry out, no decision has yet been taken as to who the three British pilots in the contest will be. The Captain of the Team, Sqdn.-Ldr. Orlebar, has tested both types. This, it is customary for the Captain of the Team to do before handing the machines over to his pilots, and it must not necessarily be assumed that the Captain will fly in the race, even if he should have had more practice than some of the pilots. During the last few days the weather has been a little better, and most of the pilots have been able to get in some practice on the actual Contest machines. It appears likely that by Thursday evening all will have had approximately the same amount of time on the machines, and the final



THE "MERCURY" ENTERED BY LIEUT. A. J. WILLIAMS, OF THE U.S. NAVY, IS FITTED WITH A PACKARD ENGINE

choice will then, presumably, be made on the "form" shown by the different pilots.

As in the case of the pilots, so also with the machines will the choice of types to represent Great Britain be decided only after thorough experience. At present the first Supermarine S.6 has been flown a good deal, while the first Gloster VI has had but little testing. However, a couple of days of good weather may remedy this, and at the moment it is quite impossible to forecast which of the two types will be used in two specimens and which in one.

Both the British types were produced by their respective firms to Air Ministry order, under the general direction of the Directorate of Technical Development. The technical staffs of the Air Ministry, the Royal Aircraft Establishment at Farnborough, and the National Physical Laboratory at Teddington have co-operated with and assisted the firms concerned wherever possible.



ONE OF THE BRITISH DEFENDERS: THE SUPERMARINE-ROLLS ROYCE S.6. (*FLIGHT Photos.*)

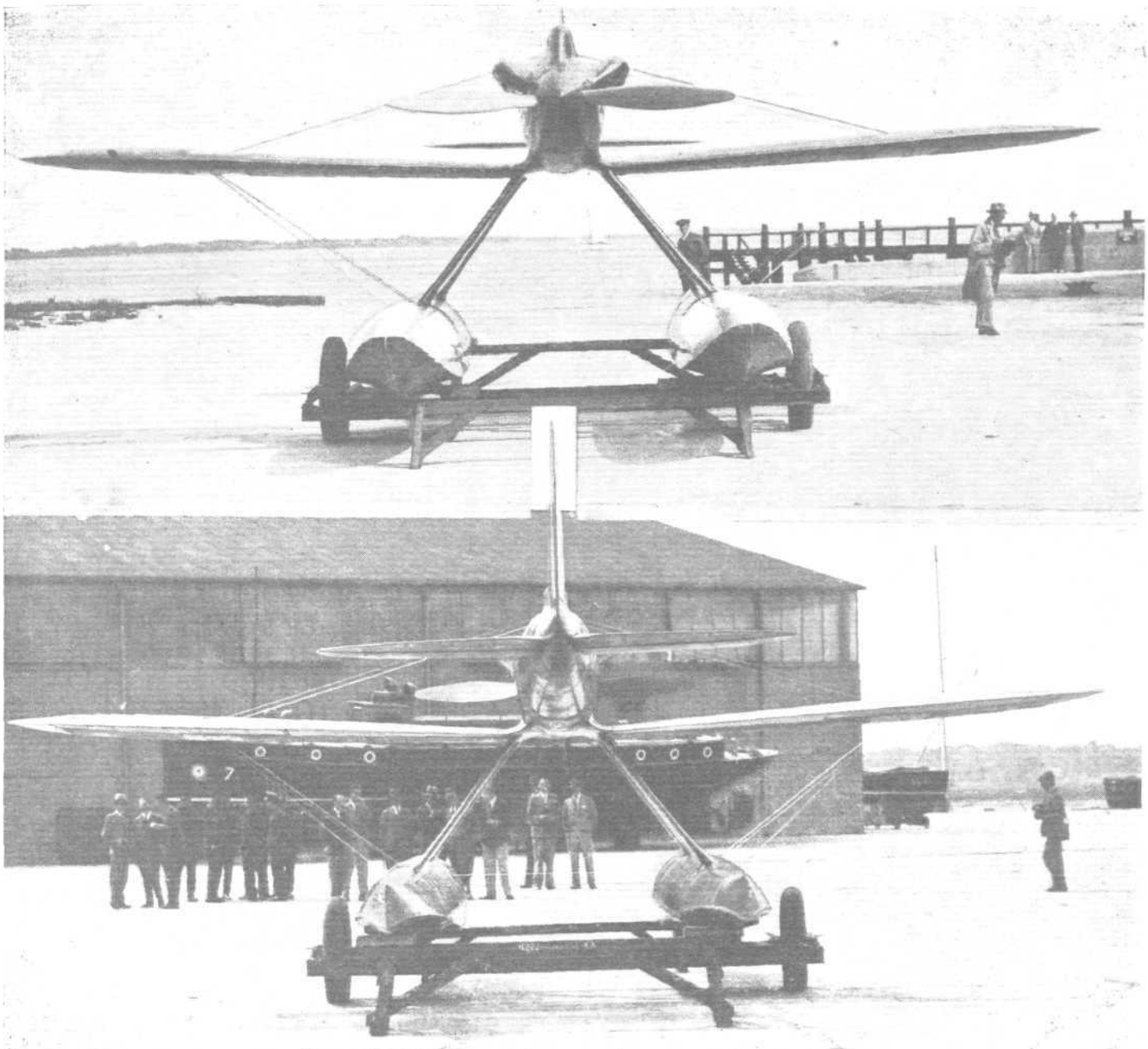
THE SUPERMARINE S.6

The Supermarine S.6, an all-metal monoplane, is a development of the Supermarine S.4 of 1925, which established a world's speed record, and of the Supermarine S.5, which gained first and second place in the 1927 Schneider Trophy Contest. Like the S.5, the S.6 is a low-wing monoplane with twin-float undercarriage, and its general lines are similar to those of the earlier type. It is, however, a somewhat larger and considerably heavier, machine, due to the fact that the Rolls-Royce engine with which it is fitted develops something like twice as great power as did the engine of the S.5, and is consequently heavier in itself, as well as requiring a greater quantity of petrol for the 217 miles of the contest.

The fuselage is of all-duralumin construction, consisting of a number of transverse frames to which the duralumin sheet covering or skin is riveted. The monoplane wings are also of all-metal construction

and a novel feature is the form of wing surface radiator employed. This consists of two thicknesses of duralumin, with a very thin film of water in between, and the radiator surfaces are made strong enough to form the skin of the wing, and to resist torsional loads.

The petrol is carried in the duralumin floats, the central portion of which is of steel construction and forms the tanks. The oil tank is placed in the vertical fin of the tail, where it receives the slipstream from the propeller and therefore acts as an oil cooler, in addition to the oil leads to the engine, which are seen as fore and aft corrugations along the sides of the fuselage.



ANOTHER BRITISH DEFENDER: THE GLOSTER-NAPIER VI (*FLIGHT Photos.*)

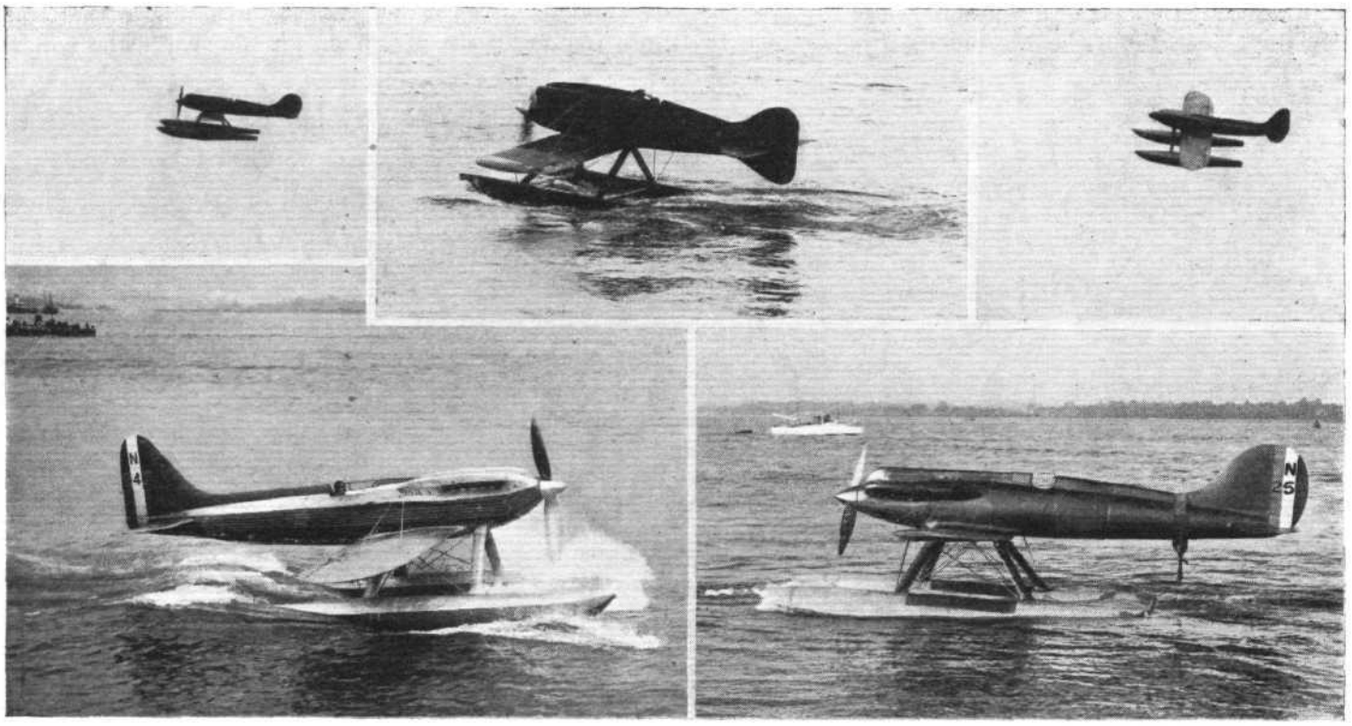
THE GLOSTER VI

This year the Gloster Aircraft Co. has departed from its previous practice of using biplane wings for the Schneider machines. The Gloster VI is, like the S.6, a low-wing monoplane. It is a good deal smaller than the S.6, the diminutive size having been made possible by the fact that the Napier "Lion," racing engine with which it is fitted is smaller than the 1927 engines, although developing a good deal more power.

The Gloster VI is of mixed construction in that the fuselage and floats are of duralumin, while the wings are of wood, with six main spars and a covering consisting of two thicknesses of spruce, laid on diagonally as the planking in the "Ashcroft System" of boat building. The petrol is carried in the floats, and the oil tank is placed just behind the pilot, with an oil cooler which forms the skin of the fuselage just aft of the cockpit. Wing radiators are used.

THE ROLLS-ROYCE "R" ENGINE

The Rolls-Royce engine fitted in the Supermarine S.6 machines is a 12-cyl. Vee-type, of very small frontal area. It is a direct descendant of the "H" type shown at Olympia, but develops a great deal more power. A supercharger placed at the rear of the engine is of new design, and helps materially to give the increase in power. A reduction gear to the propeller improves the airscrew efficiency.



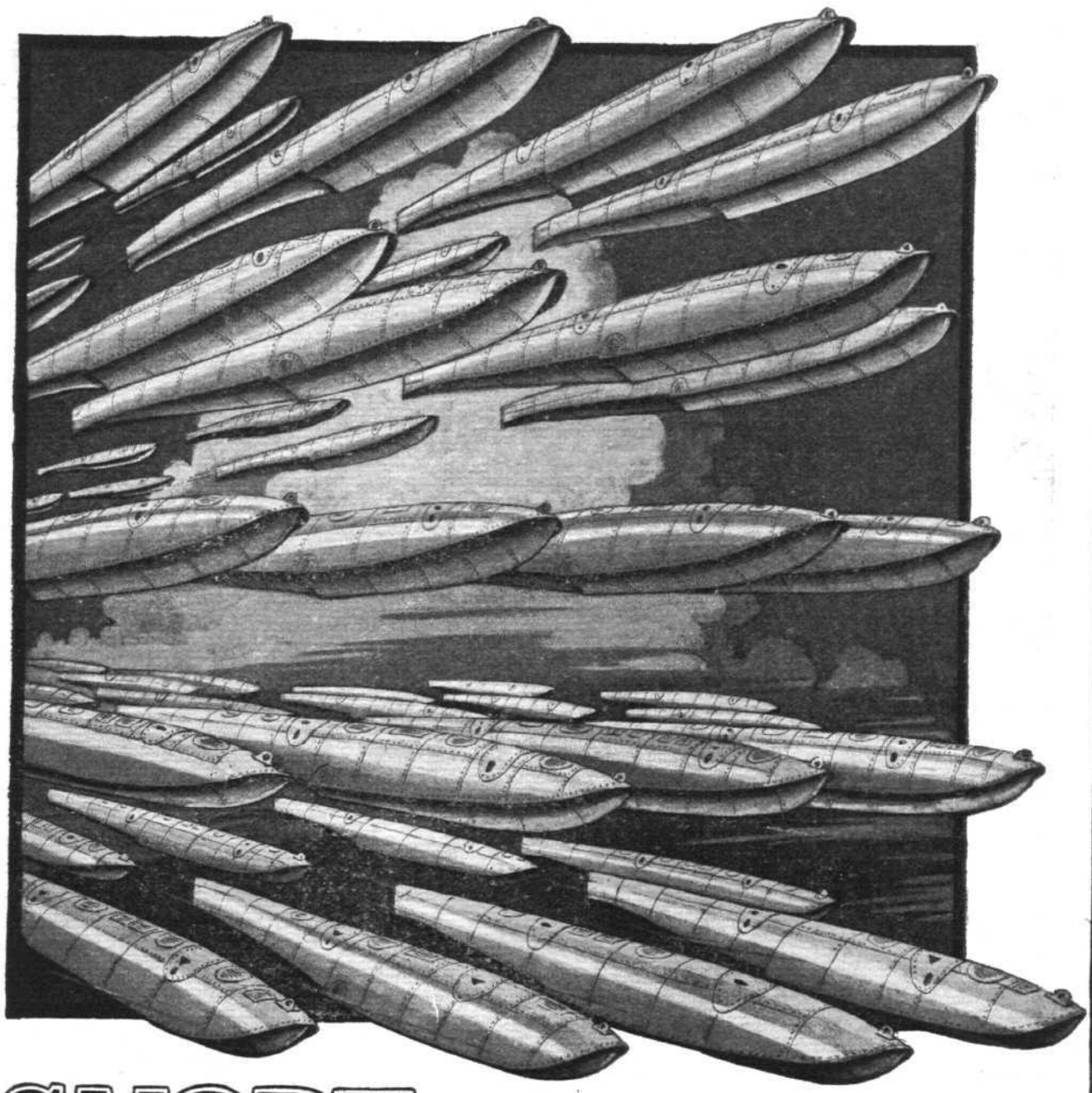
AFLOAT AND A-WING AT CALSHOT. ON THE LEFT THE SUPERMARINE S.6 (ROLLS-ROYCE), AND ON THE RIGHT THE GLOSTER VI (NAPIER). IN THE CENTRE, THE ITALIAN MACCHI M.52 PRACTICE MACHINE. THE INSET ON THE LEFT SHOWS THE GLOSTER VI ON ITS FIRST TEST FLIGHT, AND THAT ON THE RIGHT THE SUPERMARINE S.6. (*FLIGHT Photos.*)

THE NAPIER "LION" RACING ENGINE

The special "Lion" racing engine used in the two Gloster VI machines is a development of previous "Lion" racing engines. Like these, it is a 12-cyl. "broad arrow" type, with the cylinders arranged in three banks of four each. The frontal area is even smaller than that of the 1927 "Lions," although the power is considerably increased. A supercharger and a propeller reduction gear are features of the design.



A FAMILIAR FIGURE: THE SECRETARY OF THE ROYAL AERO CLUB, LIEUT.-COM. HAROLD E. PERRIN.



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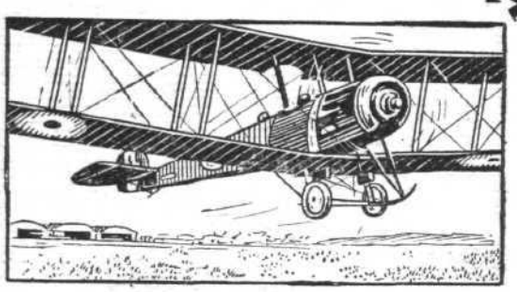
DE-HAVILLAND	- MOTHS.	GLOSTER	- I.	SUPERMARINE	- S.4. (SCHNEIDER TROPHY)
" "	- 9.	"	- III.	SHORT	"CRUSADER" (")
" "	- 50A.	"	- III A&B	PARNALL	"PERCH"
" "	- 50JA.	"	- IV.	"	"PETO"
" "	- 50JU.	"	- IV/1.	"	"PIPIT"
" "	- 61.	"	- IV/A.	& NUMEROUS OTHERS	

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SUPREME THROUGH THE YEARS

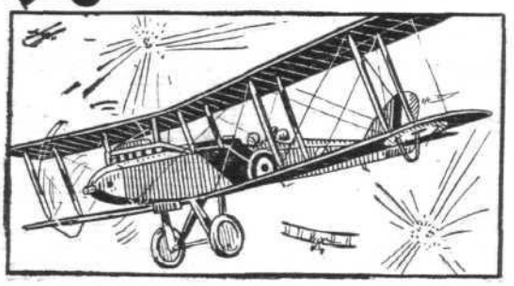
1913



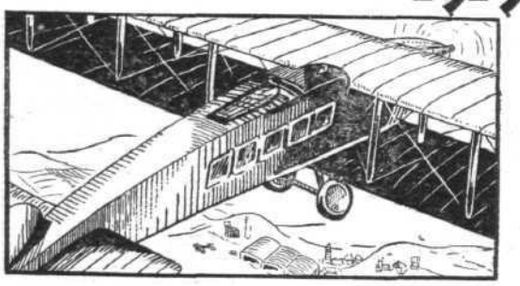
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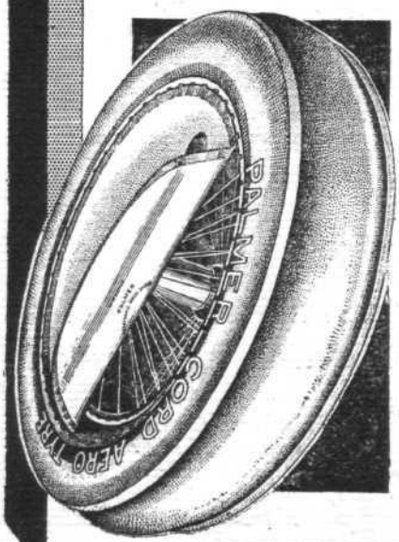
These were the War years, when the entire British demand for Aeroplane Landing Wheels and Tyres was met by Palmer. *Every* British machine which left England was equipped with Palmer Landing Wheels and Tyres.



1919-1929

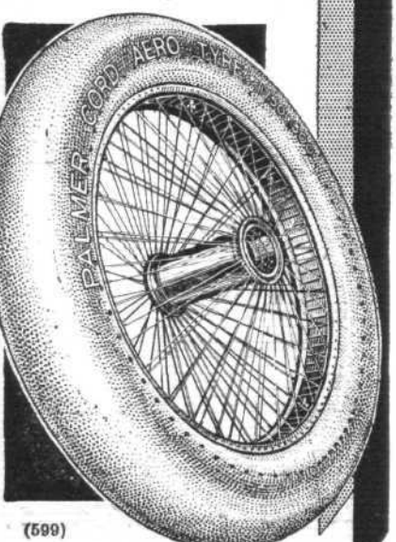


In the years since the War continuous research and new technical advances have kept Palmer Landing Wheels and Tyres first in efficiency and popularity. They have been chosen for all the notable flights undertaken on British machines, they are fitted as standard equipment on the great majority of British machines, and they are used in every country in the World where Aeroplanes are employed.



PALMER

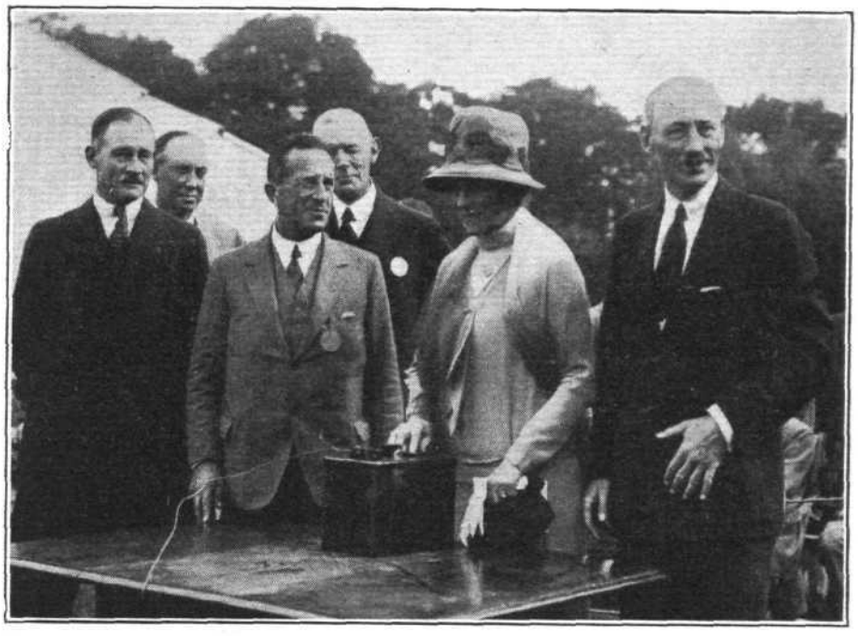
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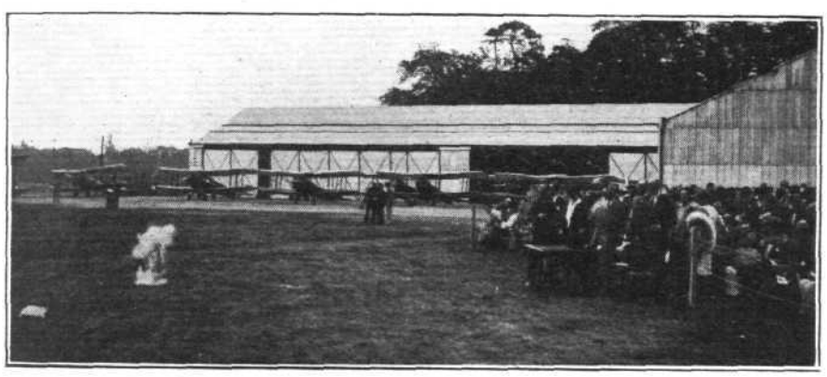


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NATIONAL FLYING SERVICES' OPENING



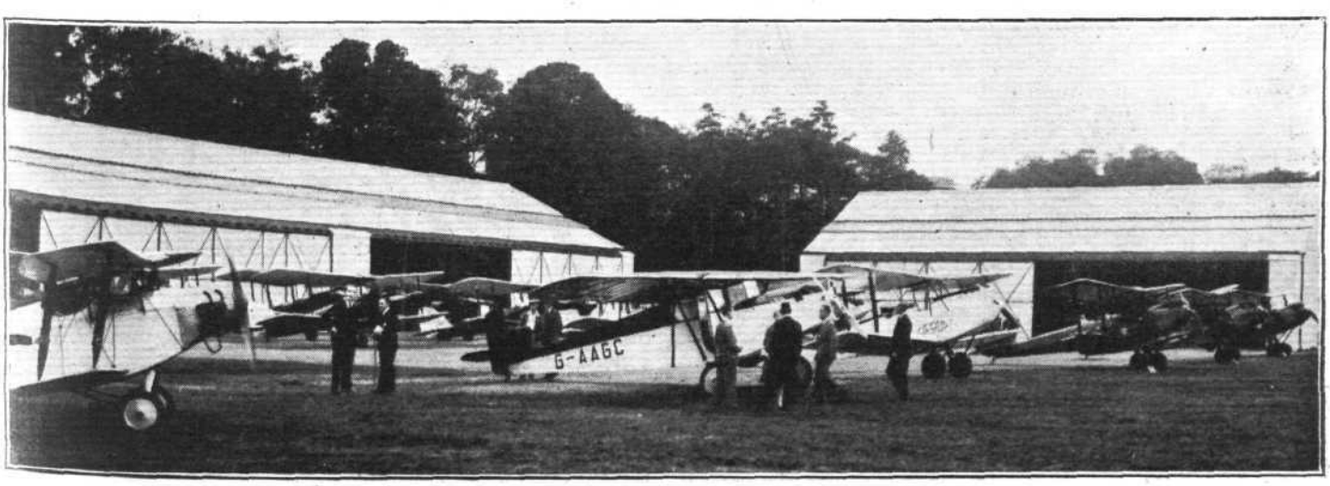


"Cause and Effect": Her Grace the Duchess of Bedford, supported by Sir Sefton Brancker and Capt. F. E. Guest, fires the "pyrotechnic landing signal," and declares the London Air Park Open. ("FLIGHT" *Photos.*)

NATIONAL FLYING SERVICES, LTD., held their first official function at Hanworth Park, on Saturday last, in the form of a Garden Party and Flying Display. The club house is situated in the middle of the aerodrome and is surrounded by its own gardens, part of which were laid out by Queen Elizabeth, and the house itself, which has been redecorated and furnished, is now open as a country club.

The whole aspect was very bright and cheerful in spite of the heat; tea was served in a tent on the lawn, and small page boys, dressed in the N.F.S. colours of orange and black, handed round programmes. The N.F.S. pilots, whose uniform is a tight-fitting tunic coat with a high collar, appeared to find that theirs was not the best rig for such weather, but one was told that the material was lighter than it looked.

From 3.0 to 4.30 was set apart for looking over the club house and getting tea, and there was no doubt about the interest which was taken by the crowd in general. About 4.15 the majority began a move to the aerodrome, where Her Grace the Duchess of Bedford was to declare the aerodrome open. She was supported by many well-known people in the aviation world, and one noticed Lord Thomson, Capt. the Hon. F. E. Guest, Sir Sefton Brancker, Air Vice-Marshal Sir E. Ellington (commanding A.D.G.B.), Lt.-Col. I. Edwards, and many others. At 4.30 she duly fired the



PART OF THE N.F.S. FLEET: **Mr. Marcel Desoutter by the tail of his first machine discusses the Martlet with a friend.** ("FLIGHT" *Photo.*)



" THE MASTER AND HIS MINIONS " : Capt. T. Neville Stack, A.F.C., Chief Pilot and Air Superintendent, on the left in the Hermes Moth and on the right his pilots show the result of his organisation. (" FLIGHT " *Photo.*)

" Pyrotechnic Landing Signal," to quote from the programme, and declared the aerodrome open.

The first event was a demonstration of formation flying by No. 600 Auxiliary Squadron, R.A.F. (Capt. Guest's own squadron). The formation was composed of D.H.9a's, and their performance fully upheld the reputation of the auxiliary air force. A somewhat amusing new version of this sort of thing was expressed when a lady spectator was heard to remark, " *Oh! look, they are flying in pattern!* "

Various machines were then taxied down near the public enclosure and they took off and flew round two or three times. Leading, was an N.F.S. Moth (" Cirrus "), then a similar Spartan, the Martlet (which was fully described in last week's issue of FLIGHT), the Desoutter cabin monoplane, looking very attractive in its cream and black colours—it caused considerable interest among the spectators, being the only cabin machine of this size to be seen over here at present, the Amphibian Moth, which Short Bros. have built to the order of Mr. Scott-Taggart, another Spartan not painted in N.F.S. colours, which appeared to be a three-seater model, an all-metal Moth coupé, a Wapiti with " Jupiter VI " engine, and finally an Avro Lynx, Capt. Broad's King's Cup Moth, the " *Pull-Over* " also taxied out, but did not take off.

An exhibition of aerobatics was then given with the Martlet; the pilot certainly showed off the capabilities of the machine to advantage, and moreover, showed that those capabilities were very considerable. His loops almost off the ground, upward rolls, bunt and half-roll, half-loop and half-roll, were certainly far more snappily carried out than one has seen with any other light aeroplane. His dives and subsequent zooms were more like those one is accustomed to see at Hendon than at such flying meetings as these.

A Moth fitted with slots was then floated about to show those who are new to flying—and there was a very large percentage of such people present—that aircraft do not necessarily have to fly fast.

A Spartan flown by one of the N.F.S. pilots did some rolling and inverted flying, and showed that the Spartan does not sacrifice manœuvrability to interchangeability.

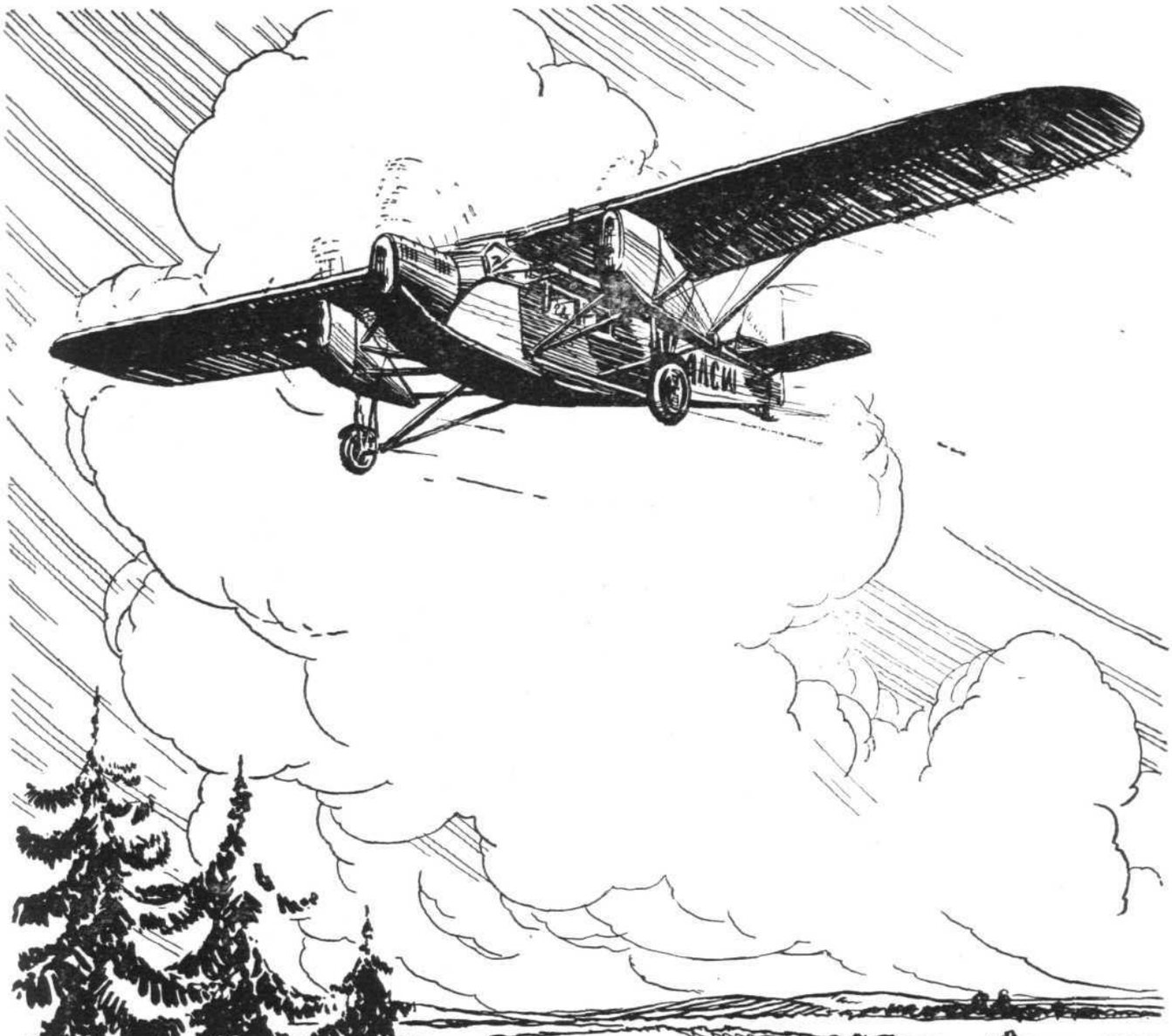
A formation of N.F.S. Moths with " Cirrus " engines then proceeded to try and bomb a " Baby " Austin, and the " Baby " liked it; at any rate, no direct hits were scored and the target continued to career around quite gaily. Capt. Stack then gave one of his displays on a " Hermes " engined Moth. Candidly, one has seen him do better, and the " Hermes " did not appear to give him any more scope than the " Gipsy," but probably this opinion is not quite just as one is rather critical when one has seen anyone do such things fairly often. However, if he has kept something up his sleeve for their subsequent shows it is all to the good, as the majority of the crowd were obviously new to these meetings and they thoroughly appreciated his exhibition so that they will probably have something still better to see when next time comes, which is as it should be, because they, too, will then be more critical. *A propos* of Capt. Stack, one lady was heard to remark that " *she thought it wonderful that the pilots could hear the little bang of the pistol* (*Very pistol*) *which Capt. Stack fired when he wanted them to come down.*"

Mr. Tranum, who had gone up in one of the N.F.S. machines, then jumped overboard at somewhere about 900 ft. He timed his jump beautifully, and by " spilling " on the way down he landed almost in the middle of the aerodrome. He very successfully demonstrated how gently his Russell Lobe parachute puts him down as he has not yet recovered from his recent motor-cycle accident and therefore lands on one leg !

Flying Officer Staniland did some slow flying on the new Spartan. This machine has had its span slightly increased, which gives it a much better take-off and climb and has brought its landing speed down to 36 m.p.h. It also has a new type of cowling in which both sides are hinged like the bonnet of a motor car, and though the engine is completely enclosed, the cooling is ample, and actually the engine is cooler than with cowlings where the cylinder heads are exposed.

A formation of N.F.S. Moths then emulated their Service predecessors with some formating. Their manœuvres were very neatly performed, and showed that such evolutions as the " Prince of Wales Feathers " can be quite attractive when done on light aircraft. After one evolution wherein the three machines divided, an unrehearsed incident occurred that was well worth seeing: one of the outside pilots seemed, as it were, to lose his programme and get out of step. The formation had opened out and looped. When he got nearly to the top of his loop he evidently thought he ought not to go on, because he flattened out a bit and came down in a tail slide, and recovering in a quick dive, took his place in the formation in a most natural way !

After a fly past by sundry N.F.S. machines the signal gun was again fired to indicate that proceedings were at an end as regards the programme and joy-riding would now start.



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It is worthy of note that all the 22 machines that finished the course were coated with "Titanine" Dope, and the following letter from the Gloster Aircraft Co. bears witness to the high quality of "Titanine" Products.

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"We are pleased to confirm that the Gloster 'Grebe' Machine which won the King's Cup Race on the 6th instant was coated with Titanine materials. The signal victory achieved by Flying Officer R. L. R. Atcherley and Flight-Lieut. G. H. Stainforth in winning the race and putting up the fastest time at the record average speed of 150·3 m.p.h. is a further witness to the satisfaction which your materials have always given us during the many years we have used them."

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A limited number of members are being enrolled, to enjoy all the privileges and benefits of the N.F.S. organisation, at the following rates: Flying Members, 5 gns. entrance fee and 5 gns. annual subscription; Non-flying Members 3 gns. in each case. For this year two-thirds of the annual subscription is rebated. Serving Officers of H.M. Regular Forces are admitted without entrance fee, and reduced rates are allowed to family members, country members, and overseas members. Membership of the Hanworth Club confers honorary membership of all other N.F.S. Clubs, and free use of every N.F.S. station. Qualified flying members will be able to hire two-seater light aeroplanes at rates as low as £1 1s. an hour (3¼d. a mile) from any N.F.S. club. Residential terms at Hanworth range from 5½ gns. to 7 gns. per week.

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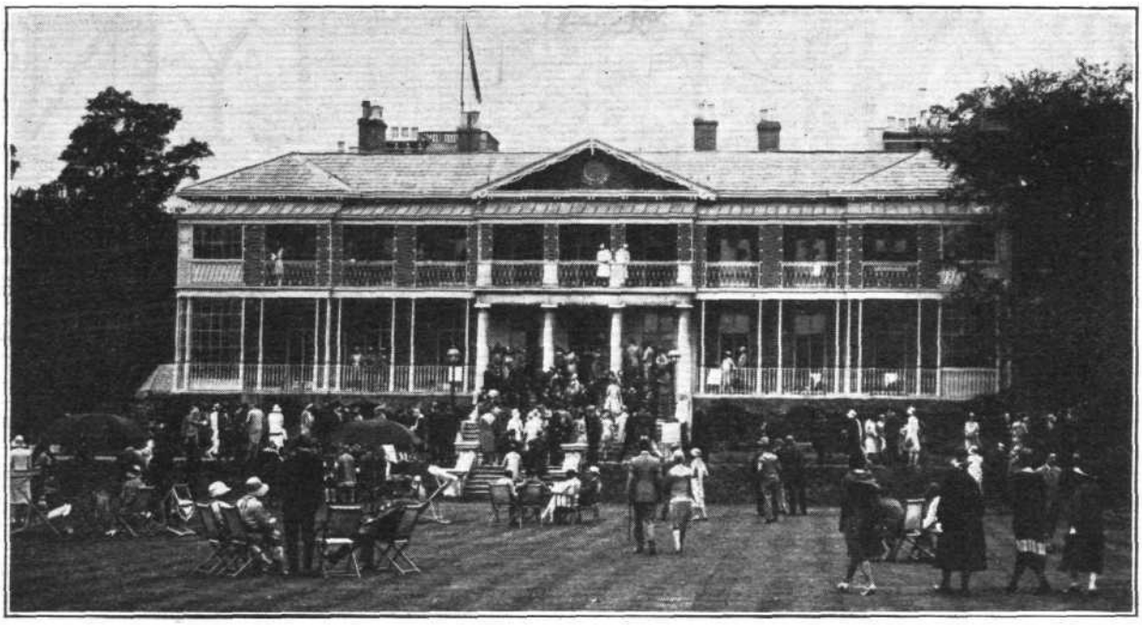
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LONDON AIR PARK : The Club House and Garden Party on the opening day. (" FLIGHT " *Photo.*)

The Kneller Hall Band, which supplied the music, was a vastly different source of entertainment to the usual rasping gramophone-cum-loud-speaker with which we are inflicted at most meetings, but it was a pity that their music was quite so high class, as what with the stifling heat and the flying most people were more in the mood for lighter and livelier things.

The attendance of visiting pilots was distinctly encouraging, there being some 47 Moths and 14 other machines present besides all those of the club and auxiliary squadron, so that the newcomers had a taste of what they may expect any ordinary Saturday afternoon when such places as Hanworth Park are going full swing.

The spectators were in somewhat scattered enclosures and consequently it was difficult to judge their numbers, but there seemed a goodly number of them. One mostly saw the invited guests, and they all seemed to be thoroughly keen and interested and one can only hope that N.F.S. will reap the benefit of their organisation in the future. They have, one understands, an already large number of members, and as the club becomes better known through its activities in other parts of the country no doubt their membership will increase rapidly.

Capt. Neville Stack, on whom the onus of the flying organisation fell, is, one thinks, to be heartily congratulated; his events ran off to time almost with the punctuality of the R.A.F. Pageant.

The show was wound up with a dance in the club house and was, one hears, an unqualified success, everyone being very energetic, and judging from the way in which certain pilots seemed to prefer easy chairs at Hadleigh the next day the report would appear to be true.

THE OPENING LUNCHEON

PRESIDING at the luncheon, Capt. F. E. Guest proposed the toast of His Majesty the King, which was most cordially received.

Capt. Guest then submitted the toast, " The Guests." He said :—

" There are two or three things I should like to say to you, the press, up to now, have been extremely kind to us, and I am anxious to enlist their assistance and sympathy on this occasion. This movement is the culmination of two years' thought and effort. Four private owners got together and thought it would be rather good fun to have a field to themselves where they would avoid air congestion. Today, you see a very fine historical estate becoming the mother aerodrome of a chain of aerodromes which we hope to create and couple with 70 or 100 landing fields. Underlying it all is the principle of bringing flying within the range of people of moderate means and enable a person who joins our club to become a member of the whole lot and receive the same service if he belongs to London or Aberdeen. If we succeed in training 2,000 pilots a year, we shall receive from the Government £15,000 a year and hope to build up in the future a big national organisation.

" Hanworth Park has resumed its associations with a royal sport after an interval of 350 years. Henry VIII had a hunting seat at Hanworth, and Queen Elizabeth hunted in the Park in the year 1600. We are proud of the fact that we have provided one of the largest and finest civil aerodromes in the country, with social facilities which cannot be found in any other aerodrome in Europe. We have set out to provide the bricks and mortar of the air age, and Hanworth is our first centre.

" I am glad to be able to announce that two provincial air parks at Reading and Hull are now on the point of being equipped and starting active operation. Negotiations for five others are now nearing the final stage, whilst three others are only a little less advanced.

" Discussions are now taking place with a large number of towns and individuals with a view to the establishment of the intermediate landing grounds. Our present programme embraces a total of 71 flying stations, and we are confident that within a year from today the greater part of this system, if not the whole, will be in full commission. Thirteen or 14 of these will be air parks and the remainder what are called landing grounds—well surveyed licensed fields, with telephones and petrol pumps.

" Besides being national in conception, we must be Imperial in performance, and I hope in September to proceed to the Kenya Colony and Tanganyika Territory (East Africa). We have knowledge from Parliament that the arterial route to the Cape is developing now and the governments through whose country these lines will pass are all in favour of granting facilities to feeder services. I have decided to go with a few mechanics and pilots belonging to the company to start the feeder system of the route. I hope to start in two weeks' time.

" Aviation in the lighter form is just as much a woman's enterprise as a man's enterprise, and we have with us to-day remarkable instances of the wonderful performances of women in the air. We have the Duchess of Bedford (applause). A marvellous example of courage and aplomb (applause) ; Lady Bailey, whose historical African flights needs no comment, and a young recruit in Miss Sale Barker, who obtained her flying licence in the record time of 6½ or 7 hours. I also have a little daughter of my own, who has gone back to America with her pilot's certificate in her pocket to show the Americans (applause).

" The enterprise I am about to enter upon on behalf of the company and myself is to spread the gospel of flying in Central Africa and I am taking with me two N.F.S. pilots and Miss Spooner, the foremost professional airwoman. It must not be thought that the British are not air-minded. It may possibly surprise you to know that Hanworth is the twenty-fifth flying club to be started in Great Britain and the ninety-third in the British Empire.

" We now have 1,090 licensed civil pilots, and if National Flying Services produce some two thousand pilots a year, we shall have done something for the country.

" The sporting development of flying has a very important national and commercial significance. Flying has come to stay. Speaking personally, I almost believe that a member of a flying club is of more value to the country than a Member of Parliament. Every man or woman who flies is helping to create an air tradition that will be worth countless Acts of Parliament to the British Empire tomorrow, and every flying club is worth an Air Force Squadron in building up a national air morale.

" The commercial aspect is scarcely less significant. Whenever you hear it said that regular air lines are not required in these islands, I ask you to think of the thousands of people who are forming the flying habit and will certainly wish to travel by air on every journey they have to make" (applause).

Replying to the toast, Air Vice-Marshal Sir W. Sefton Brancker, K.C.B., A.F.C., Director of Civil Aviation said :—" I am not in the least entitled to the honour of replying to the toast as I am a member of the Club. Here, on this ground there is the best civil fleet of aeroplanes I have ever seen. Civil aviation seems always to have been under a cloud, but now I have come here I have found it respectable (laughter), luxurious and cheap. (Applause.)

" That is a step forward. Centralisation and combination are the order of the day in all commercial undertakings and this enterprise has been formed on these lines. For the past six years the flying clubs have done magnificent work. They have been supported by the Government financially, and the results have been splendid. But the Treasury has said they cannot go on for ever and there must come a time when the clubs must pay their own way.

" Captain Guest has come forward with a proposal and a big expert staff to deal with the private and sporting activities of flying. This new enterprise is a logical development from the experience gained by the operations of existing light aeroplane clubs, the machines of which have contributed so much to British flying.

" It has always been recognised that private and sporting flying could only flourish healthily when the application of Government financial assistance ceased to be necessary. One of the principal aims of National Flying Services is to reach this much-to-be-desired goal. In its march towards this end, numerous new aerodromes will be created, thereby giving a real incentive to using air travel as the quickest, most comfortable, and in some cases, the cheapest form of locomotion.

" There has been a certain amount of criticism from the old clubs, but the new organisation has not hurt them. The great increase in flying activities which will be brought about by National Flying Services—not only in the course of their own business—but by the added facilities which they will place at

(*Concluded on page* 994.)

PRIVATE FLYING

A Section of FLIGHT in the Interests of the Private Owner, Owner-Pilot, and Club Member

THE HADLEIGH RALLY

THE Suffolk Aeroplane Club held their International Air Rally at Hadleigh on Saturday and Sunday, August 31 and September 1. The programme on Saturday commenced with the Rally ; quite a goodly number of private owners turned up and ensured the show being a success. The prize for the Rally—first £25, second £10, third £5—was awarded on a formula $\frac{D \times D/50}{M}$, where D is the distance in miles in a direct line from the point of departure to Hadleigh and M is the minutes + or — zero.

Zero hour was noon, and the first prize was won by Col. Richardson in his Klemm, second prize by Mr. B. Wilson in a Gipsy-Moth, and third prize by Flight-Lieut. T .Rose in a Cirrus-Moth.

During the afternoon there were exhibitions of aerobatics, slow flying, crazy flying, formation flying, aerial golf, and various amusing events, including a motor-cycle gymkhana. In the aerial golf the competitors were provided with three bags of flour which they had to aim at a mark on the aerodrome, from their machines in flight, within 5 minutes of being given the word "Go," on the ground. They were not allowed to carry passengers and the pilot who got his shots nearest the mark was the winner. This was won by Flight-Lieut. Rose, the second being Mr. Murray, of the London Club, and third, Mons. Maus in his St. Hubert.

Mons. Maus, with Comte Arnollde Looz Corswarem, had flown over from Brussels in their St. Hubert monoplane (85 h.p. Walter). They were in the same machine in which Mons. Maus had recently completed the Challenge Internationale Tourisme, and having spent the night over here they returned to Brussels on Sunday afternoon.

On Sunday afternoon the events began with an exhibition of aerobatics by Mr. Murray. Mr. Murray flies his own Moth and is, it will be remembered, the pilot who recently did so well at Heston in the International Aerobatic Competition during the Aero Show ; he is a member of the London Club. He is certainly very good indeed for a private owner who has so recently learnt to fly.

Messrs. Lowdell, Prentice and Waterhouse then gave a demonstration of formation flying in the three Bluebirds belonging to the club and showed that Bluebirds are quite handy machines with which to formate ; one of them was the new Gipsy-engined all-metal machine, and it certainly appeared more nippy than its predecessors. Amongst the spectators one saw Mr. Robert Blackburn eyeing his production very critically.

Flight-Lieut. Rose, in the Angloco Widgeon *Miss Ethyl*, and Mr. R. Quillter in his Moth, next showed just how slow an aeroplane can be flown when one knows how. Mr. Quillter made two completely stalled landings and many times stalled down to within a few feet of the ground, and then, with a burst of engine, went away as if it was the most ordinary proceeding in the world. Flight-Lieut. Rose went rather higher, where there was more wind, and then appeared to hitch a couple of sky-hooks on to his wings and just hang there. The Widgeon of course has a medium section wing (R.A.F.34) which is very stable and enables the pilot to retain lateral control to a very large degree at or beyond the stalling point. This machine was also fitted with Handley-Page slots, but with such a wing section in which the centre of pressure has practically no movement it is doubtful whether this is any advantage. Mr. Quillter must be one of the keenest newcomers to the realms of flying. One is told that, although he only learnt to fly about six months ago, he is always in the air and has already done over 1,000 hours ! Incidentally, he always wears a Russell lobe parachute.

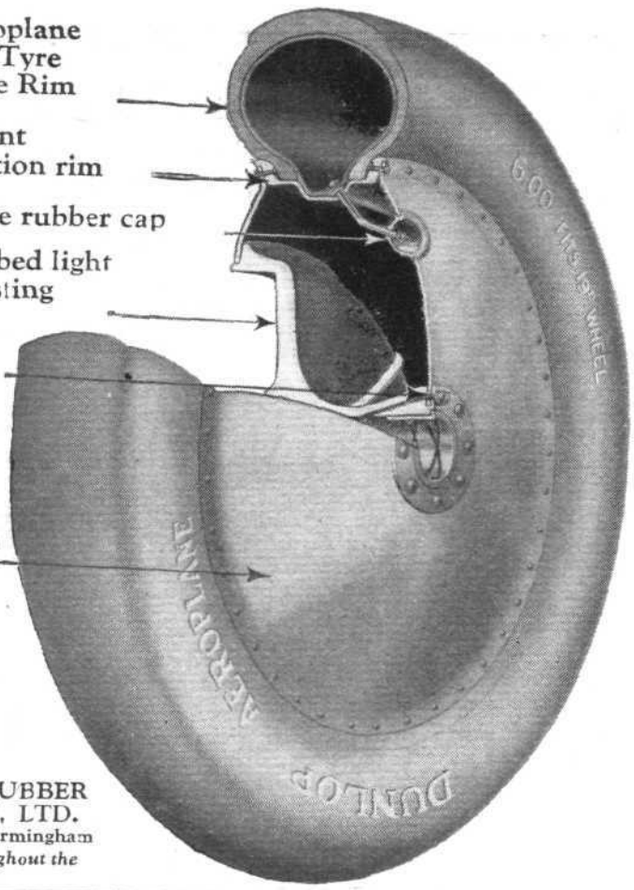
Mr. Lowdell, the club instructor, gave a very good show of crazy flying on a club Bluebird, and two other Bluebirds tried to bomb a Baby Austin and a Bugatti ; in this case the car drivers appeared to be more skilled than the pilots and they avoided the bombs very well indeed.



" SAFETY FIRST " : Mr. Tranum about to go up for another jump at Hadleigh with Mr. R. Quillter, who also wears a Russell parachute. (" FLIGHT " *Photo.*)

A new turn was staged as the humorous event. In this case the programme announced that Capt. *Shotup* of the Texas Rangers had consented to do some sharpshooting from one of the club's machines. Apparently he was also a pilot for he took off alone, and after circling around dived at a canvas structure which had been carried out on to the aerodrome and on one side of which were hanging some glass bottles. As he passed he leant over the side and fired a large pistol, one of the bottles promptly broke, and so on for four times, but the next time he missed, and then again and again until he must have thoroughly exhausted the patience of his shadow accomplice, who suddenly put his head over the top of the structure, when the aeroplane was still many yards from the target, and broke the last bottle with a hammer—shame !

Returning to more serious things, there was next a landing competition. The competitors had to climb to 1,000 ft. and then switch off their engines and land over a mark. The one whose tail skid touched the ground beyond but nearest to the mark was to be the winner, those who touched the



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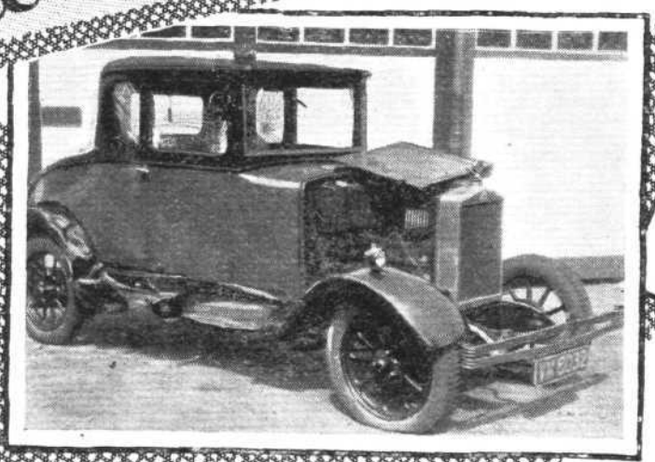
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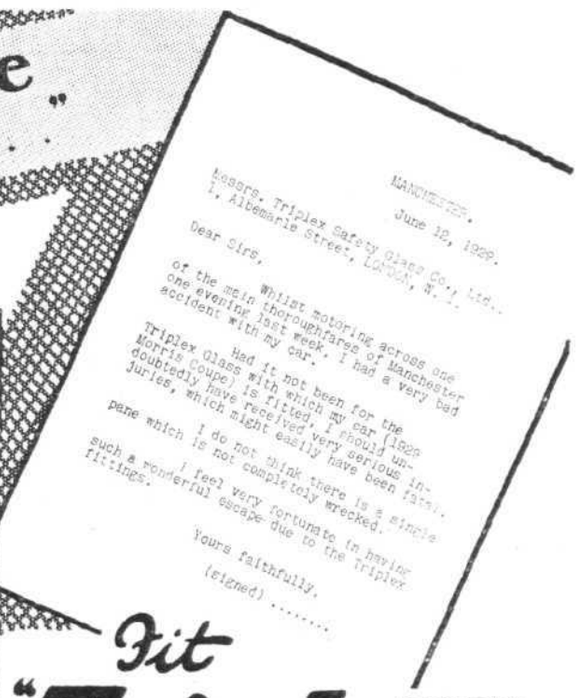
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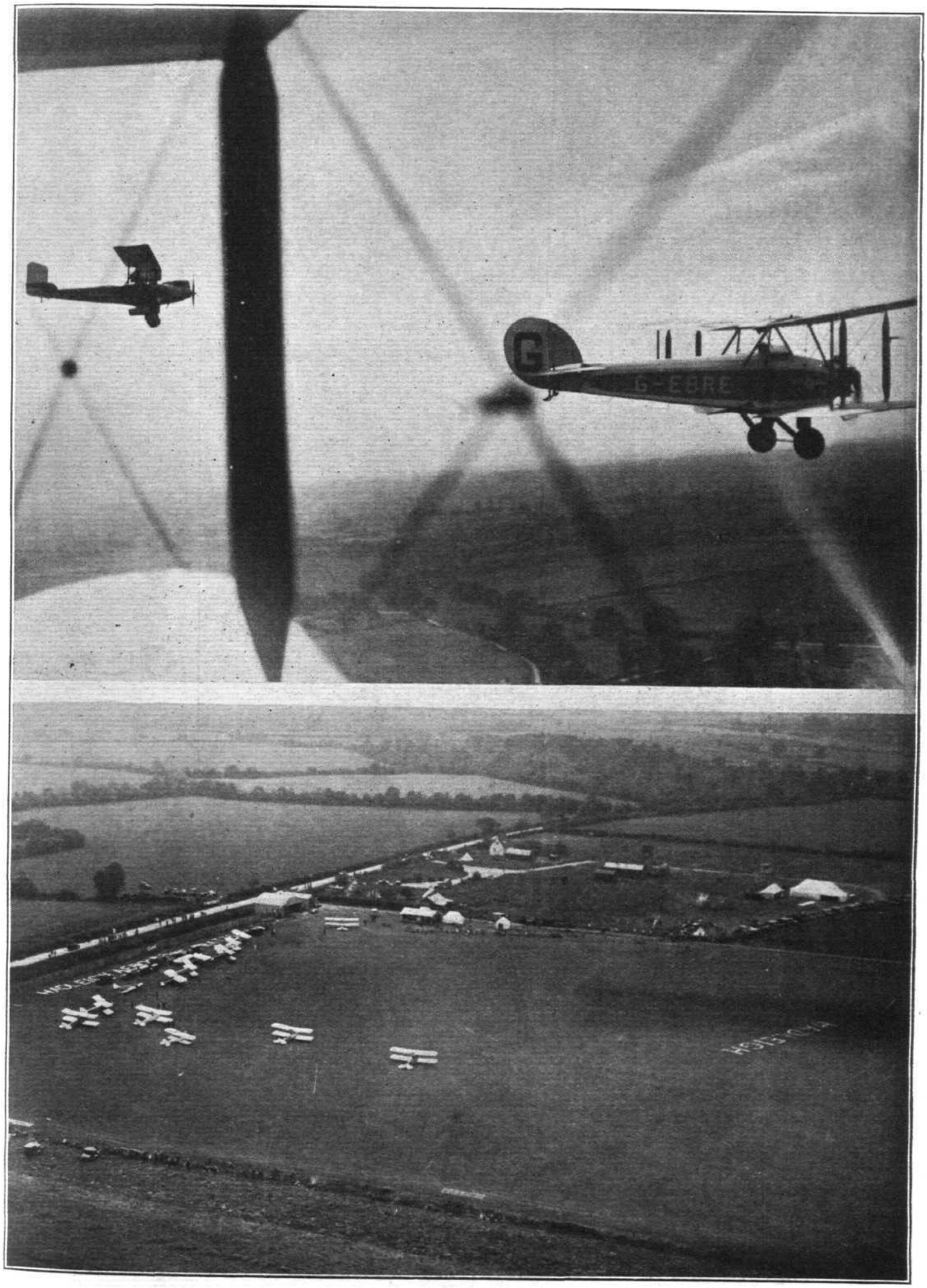


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HADLEIGH AERODROME FROM THE AIR : Above, the Club's Bluebirds in formation. ("FLIGHT" *Photo.*)



The One-Man Show—an owner, designer, constructor, pilot. Fl. Off. J. Clarke, and the result of his labours, the Cheetah (30 h.p. Thrush). ("FLIGHT" *Photo.*)



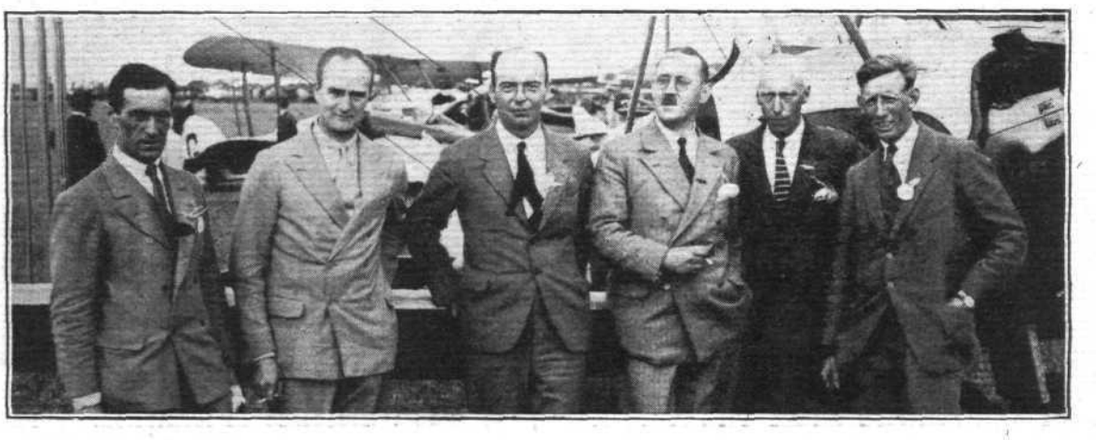
"International Visitors": Comte Arnoldde Looz Corswarem and Mons. Maus, his pilot, with their St. Hubert monoplane (85-h.p. Walter) just before their return to Brussels. ("FLIGHT" *Photo.*)

near side of the mark were disqualified. This produced a good entry and some very good flying. Mr. Quillter got the first prize with a distance of 7 ft. 6 ins. Mr. B. Wilson, flying the Moth which the *Daily Mail* are running while *Geraldine* is in dock, was second with 9 ft. 6 ins., and Flight-Lieut. A. F. Scroggs, on his D.H.53, was third with 37 ft.

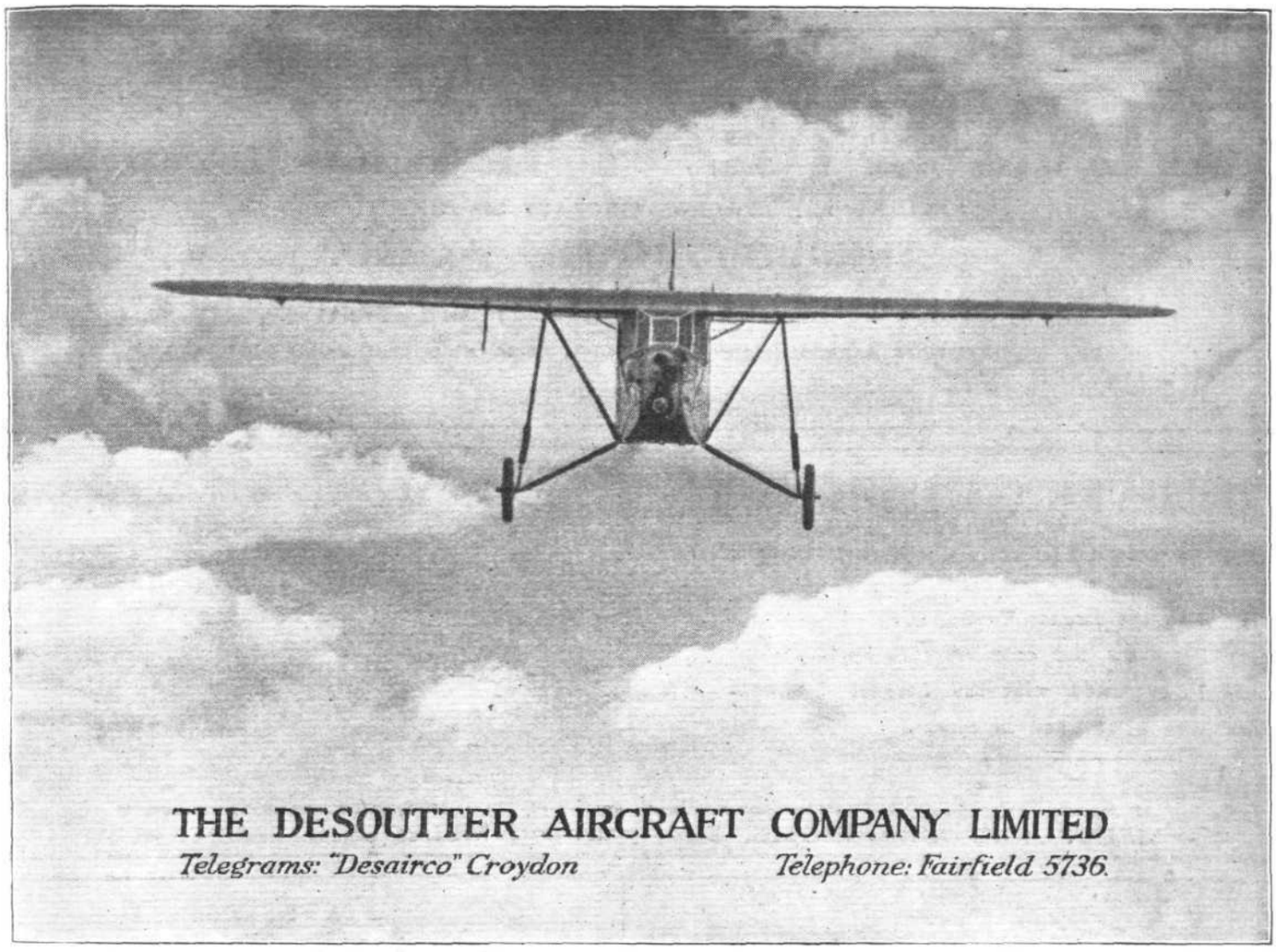
Mr. Tranum, who much prefers dropping out of the sky instead of staying up in it, again did a drop. He went up with Mr. Quillter, and on his way down found the wind was very much stronger than was anticipated, and, though he "spilled" liberally, was unable to come down on the aerodrome proper, and by just clearing some trees on the boundary made a successful landing on clear ground. His leg is still very painful from his recent accident and, naturally, this sort of work is not conducive to its recovery, but he says that he will now be resting for a bit—it speaks volumes for the Russell parachute that he has been able to carry on without further damaging himself.

Balloon bursting was the next event. The pilots were allowed 5 mins. in which to burst three ballons. Flight-Lieut. J. S. Chick was the winner in a Moth; he burst all three in 45 secs. Flight-Lieut. A. F. Scroggs was second in his D.H.53, bursting two balloons in 90 secs., and Flight-Lieut. N. H. Jenkins was third with two balloons in 105 secs.

The final event was a display of aerobatics by Flight-Lieut. Chick. His performance was what one would expect from such



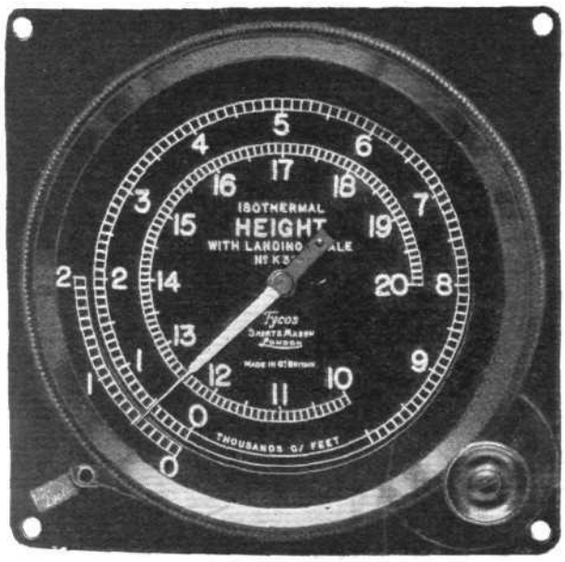
LEADING SPIRITS AT HADLEIGH RALLY: (left to right), G. E. Lowdell, A.F.M., Robert Blackburn, Dr. J. C. Sleigh, H. L. Billington, W. J. Offord, J. Clayton. ("FLIGHT" *Photo.*)



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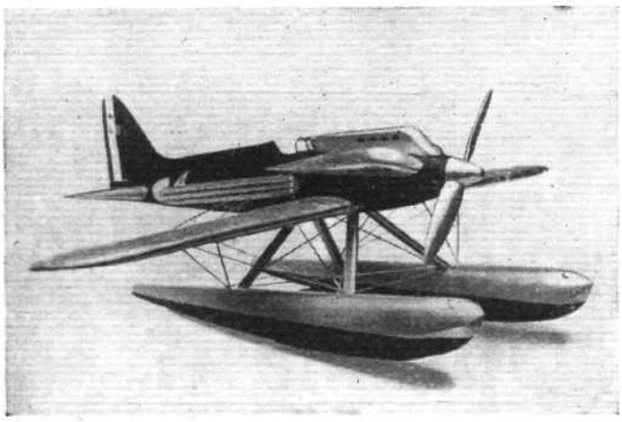


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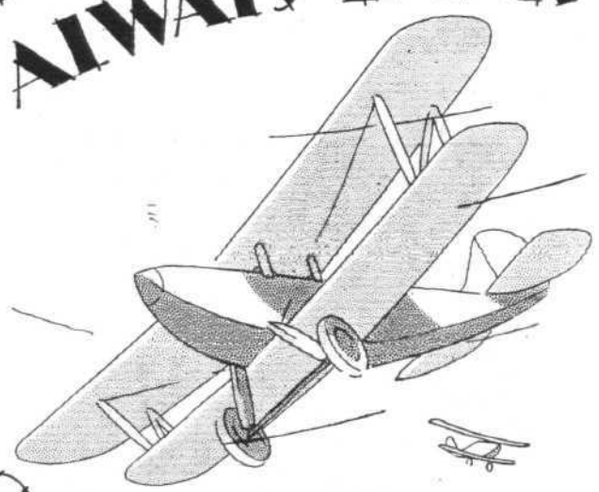
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a finished pilot ; it left no room for comment and one could only wish that he had a Gamecock instead of a light plane.

The public attendance was distinctly disappointing, but one heard that there were several rival attractions going on at the same time. In spite of that there were quite a reasonable number of spectators present, and they certainly appeared keen by the way they lined up for joy rides when the programme was finished.

By way of illustrating how rapidly private flying is growing, the following little story is repeated as it was heard. A certain sporting private owner who attends all these meetings was flying to Hadleigh when his engine packed up ; he was at 3,000 ft., and so had time to look round a bit before choosing a suitable field. He was not near any recognised landing ground and so chose a very suitable looking field, and suddenly saw that a wind stocking on a mast was conveniently placed at one side. Rather wondering how this came about he made a landing and then asked some small boys. "*Mr.——— keeps a Moth in his garden and always uses this field to take off*" was the answer ! How long will it be before every village has its " landing " green ? Not long if all those motorists with whom one was packed in at 5 yard intervals on the London Road after passing Colchester, took to heart the significance of the way the *Daily Mail* Moth was going home in comfort over their heads and not worrying whether his engine was going to get too hot in low gear !

◈ ◈ ◈ ◈

Air Pageant at Clacton

THE third air pageant organised by the Brooklands School of Flying was held at their Clacton aerodrome on Wednesday, August 28.

Commencing at 11 o'clock, a huge crowd, which overflowed all the enclosures and eventually surrounded the aerodrome, were thoroughly entertained throughout the day.

The proceedings were opened by the Chairman of the Clacton Council (Councillor J. E. Ball, J.P.), who severed a ribbon tethering Capt. E. A. Jones' Avro, releasing it to lead a formation flight over the sea-front and town. Two Siskin machines then appeared overhead and gave a display of formation loops and slow rolls. Sir Horace Plunkett, Bart., flew over from Brooklands accompanied by Capt. H. D. Davis, A.F.C., the Managing Director of the School, and other visiting pilots included Mr. Mok, a Chinese graduate of the Brooklands School; Mr. George Murray, who gave a splendid display of aerobatics; Capt. Broad, Flight-Lieut. T. Rose and Mr. Handstock (of Pratts), Miss Winifred Spooner, Mr. Nieuwenhuizen, Mr. G. De Havilland, junr., also paid a flying visit. Bombing exhibitions were given by Capt. Davis, Capt. Jones and Mr. Murray, several direct hits being made on a car and motor-cycle combination. Capt. Broad gave a splendid display of aerobatics, and Mr. John Tranum made a parachute jump from Capt. Davis' Moth, in spite of a badly damaged ankle sustained in a motor-cycle accident two days previously. The crowd thoroughly appreciated his sportsmanship in jumping despite this disability, and gave him the reception he deserved.

Lady Heath's Accident

THE latest news to hand states that Lady Heath now has every chance of complete recovery but, it is said, she will not be able to fly again. She was flying a new American training plane when the accident occurred, and it appears that she made a sudden turn to avoid a factory chimney and stalled on to the roof. The machine crashed through the roof and Lady Heath was, with difficulty, extricated from the wreckage on th. first floor by the factory employees. Her injuries were chiefly to her skull but several interior complications and broken bones were also incurred.

Lancashire Aero Club

THE Lancashire Aero Club is holding its first " At Home " on the Avro Aerodrome, Woodford, Cheshire, on Saturday, September 14. Further details will be given next week.

Rallye Aérien International et la Coupé de l'Aéro Club de France

LA BAULE will have a " big two days " on September 14 and 15. The Rallye will be on the first day with a prize of 100,000 francs and an *objet d'art* valued at 10,000 francs. The Winner will be the one who gains the most marks on a formula $\frac{L^2}{W}$, where L is a function of the distance and W is the power per passenger. Zero hour is 4.30 p.m., and a tolerance of half an hour either side is allowed ; after this, 2 km. will be deducted from L for every minute or part thereof ahead or behind the time.

On the 15th there will be races for machines with a speed of over 400 km. per hour, and for those whose speed is less than 400 km. per hour. There will also be a display by machines of the French Navy. The meeting is confined to seaplanes and amphibians.

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Amphibious Visitors to Calshot : Captain H. Broad, with Vicomte de Sibour as passenger, looks in on the Schneider Teams. ("FLIGHT" *Photo.*)



Miss E. I. (Susan) Slade, to whom aviation is a pastime and a profession, for she is the private owner-pilot of a D.H. " Moth," and also holds the position of secretary to Airwork, Ltd., of Heston Air Park.
("FLIGHT" *Photo.*)

THE TOAST

In Anticipation of the Race for the Schneider "Cup"

Ho ! Ho ! Ho ! Ho ! for the king of the air,
Whoever that king shall be ?
Who will flash through space
In the fleetest race
In mortal history.
Here's to his will,
His pluck and skill,
His nerve, success, and sight,
Who " The Schneider Cup "
Shall have lifted up
Through his victorious flight.

Chorus

Drink, boys, drink !
To the man who first gets there.
Cheer (on your own !)
For the great unknown
Who'll win the race in air.
Drink deep—but not too long.
Gentlemen, all drink up
To the first man in,
Who shall shortly win
The race for " The Schneider Cup."

They talk of " the eagle's flight,"
Of the " speed of the liners great,"
Of " wearyless wings of white "
The poets in verse dilate.
They talk of " the great express,
That with demon shriek roars by,
But what of the speed
(Aye what, indeed !)
Of men's flight through the sky.

Chorus : Drink boys, drink ! etc.

Ho ! Ho ! for the winning 'plane,
And its pilot, whatever his name,
For the clever mind
That the 'plane designed,
And the men who made the same !
To the winner here's life-long luck !
And cheers, honest, loud and long,
For both winner and losers' worth and pluck,
Goodwill and a friendly song.

Chorus : Drink, boys, drink ! etc.

When we watch them with bated breath,
Mere ants (to their view) below,
Whose courage is strong as death,
No man can dispute 'tis so.
They may feel with a faith profound
That the thousands below
True sportsmen know
And wish them safe and sound.

Chorus : Drink, boys, drink ! etc.

Ho ! for the airman king,
Whoever that king shall prove.
To him and his friends
Life's best odds and ends
And a toast to his lady-love.
For 'tis custom to wish success
A ditto repeato strong.
Yet to every man there,
Who shall flash through air
May it some day come along.

Chorus : Drink, boys, drink ! etc.

" LONELY."



Graff Zeppelin's World Flight

THE *Graff Zeppelin*, which has been carrying out a remarkable cruise round the world, arrived back at Lakehurst on August 29, thus completing the journey, which commenced from Lakehurst on August 8, in just over the 21 days. After leaving Los Angeles at midnight, August 28—as recorded last week—the airship met with considerable opposition on the part of high-tension electric cables, the Rocky Mountains, and electric storms. The former nearly caused disaster as the *Graff Zeppelin* was leaving Los Angeles, and did slight damage to her tail, while the latter, together with the Rockies, necessitated a change of course *via* Arizona, New Mexico, Oklahoma and Kansas. Before arriving at Lakehurst the *Graff Zeppelin* circled New York and then flew over the Statue of Liberty—which was selected as the starting and finishing " post " of the great flight—escorted by a number of aeroplanes. The arrival at Lakehurst was broadcast both in America and Europe. The total time taken for the Lakehurst-Lakehurst flight was 21 days 7 hrs. 34 mins., and the distance covered (*via* Friedrichshafen, Tokio and Los Angeles), approximately, 28,000 miles ; the actual flying time was 11 days 23 hrs. 33 mins. On September 1 the airship left Lakehurst at 7.18 a.m. (E.T.) for Friedrichshafen. Capt. Lehman was in charge, as Dr. Eckener—who was in command throughout the flight—is staying for a time in America, and there were 22 passengers, including two women. The airship made good progress, being 200 miles north of Azores at 9 p.m. (G.M.T.) on September 2, and passed over Corunna (North Spain) the following evening. She reached Friedrichshafen at 8.48 a.m. on September 4.

The Yellow Bird's Tour

MM. ASSOLANT and Lefevre, who have been making a European tour in the *Yellow Bird*, returned to France last Saturday, August 31.

The Prince of Wales Flies again to Le Touquet

THE PRINCE OF WALES paid his second aerial visit to Le Touquet within a fortnight when he landed at the aerodrome on August 23 piloted by Squadron-Leader Don. In spite of the strong wind blowing across the Channel, he made an excellent journey. He subsequently returned by air.

Soviet Flight to New York

THE Soviet aeroplane, *Land of the Soviets*, piloted by MM. Shestakoff and Bolotoff, which is engaged on a second attempt to fly to New York to test the practicability at a subsequent date of a regular air service to America as an extension of the Trans-Siberian Railway, landed at Cheliabinsk on August 23. It had covered the 950 miles in about eleven hours despite a headwind. From Cheliabinsk it went on to Kurgan the next day. It reached Irkutsk on August 27.

Cleveland National Air Races

A REPORT from New York says that the Cleveland National Air Races attracted over 250,000 spectators. Lt. W. Gorton, piloting a Vought Corsair, hooked his machine on to the keel of the Navy Airship *Los Angeles*, and took a passenger on board, he then slipped the hook and flew down. Señor Juan de la Cierva also demonstrated his Auto-Gyro, and Col. Lindbergh gave an exhibition of stunting.

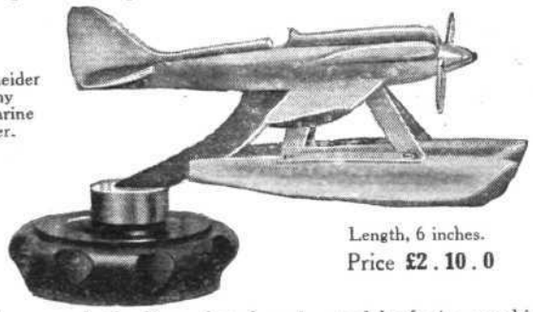
Junkers' Compression Ignition Engine

ON Friday, August 30, a Junkers aircraft fitted with the Junkers' compression ignition oil engine was sent on its first utility flight, from Dessau to Cologne. The flight was uneventful and took 3 hrs. non-stop.

French 'Planes for Roumania

ACCORDING to *The Times* correspondent the Roumanian Government is negotiating with a French aircraft firm for the purchase of 100 new aeroplanes for their Air Force.

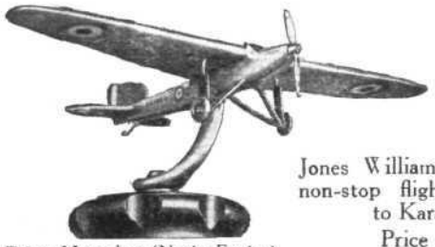
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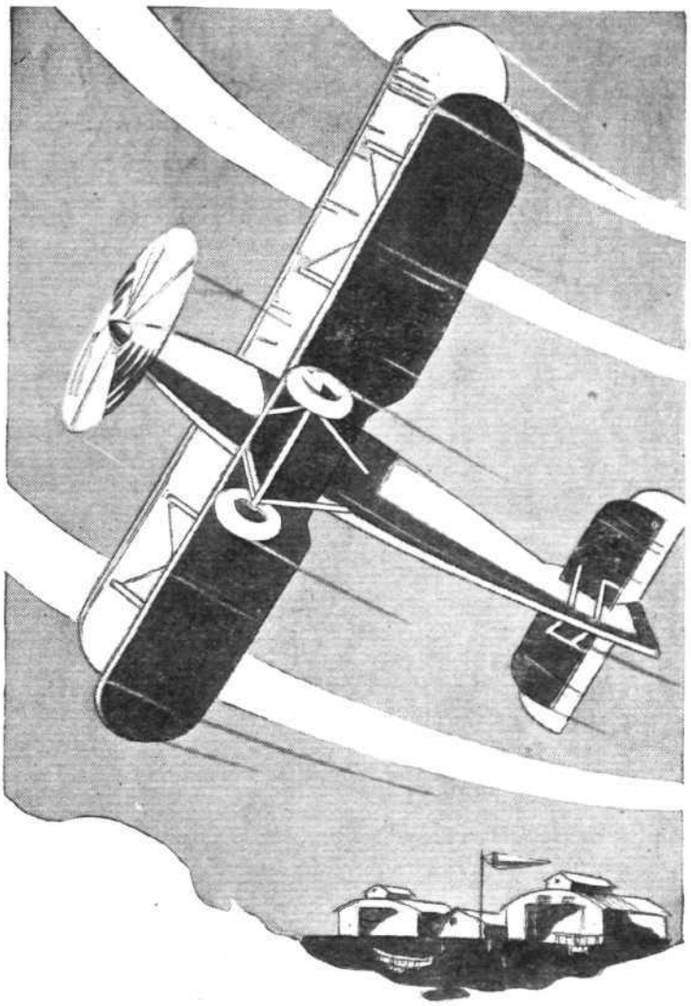
This is a perfectly-dimensioned scale model of the machine with which Lieutenant Webster won the coveted Trophy. It is perfectly streamlined and beautifully modelled. Cast in bronze, silver oxidized or bright silver finish.



The Fairey Monoplane (Napier Engine), Wing Span, 8 inches.

This is a faithful reproduction in solid bronze of the Fairey Monoplane in which Squadron-Leader Jones Williams made the first non-stop flight from England to Karachi, India.
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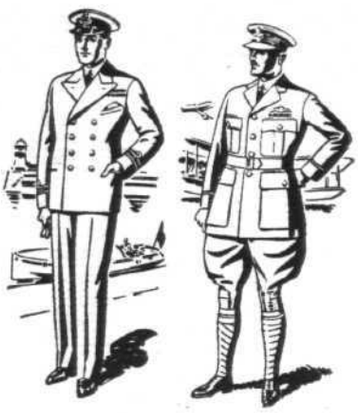
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THE ROYAL AIR FORCE

London Gazette, August 27, 1929

General Duties Branch

The follg. flight cadets having successfully passed through the R.A.F. College, Cranwell, are granted permanent commns. as Pilot Officers with effect from and with seniority of July 27 :—D. W. Lane, G. G. Barrett, J. A. Powell, R. L. Phillips, F. C. Cole, R. C. Keary, K. W. Niblett, S. S. Murray, K. P. Lewis, E. R. Simonds, L. Crocker, R. E. de T. Vintras, G. K. Fairtlough, M. L. Heath, W. S. Hebden, W. V. L. Spendlove, I. B. Newbigging, F. W. Stannard, F. R. Drew, W. T. F. Wightman, W. I. H. Burke, E. J. Corbally, H. R. L. Hood, A. D. Selway, C. A. Watt, L. E. J. Lucas, A. O. Molesworth, R. C. Mead, F. A. J. Pollock-Gore, D. J. Douthwaite, Lord Malcolm A. Douglas-Hamilton.

G. V. Carey is granted a short service commn. as Flying Officer, with effect from and with seniority of Aug. 6. The follg. are granted short service commns. as Pilot Officers on probation, with effect from and with seniority of Aug. 15 :—R. B. Abraham, M. J. Adam, A. C. Bailey, J. L. C. Banks, D. Barclay, D. Carr, R. J. Cohen, N. Kirkham, A. N. Luxmoore, J. E. C. McClure, R. M. Noblston, A. W. B. Page, M. E. Pickford, W. J. Scott, W. B. J. Sharp, G. E. B. Stoney, G. R. Stroud, L. Watson, R. L. West, A. M. Wood.

The follg. are granted short service commns. as Pilot Officers on probation, with effect from Aug. 16, and with seniority of Aug. 15 :—J. C. Atkins, E. Poole.

Lieut. F. M. R. Stephenson, R.N., is re-attached to R.A.F. as Flying Officer, with effect from Aug. 3, and with seniority of July 14, 1924. Lieut. R. G. Poole, R.N., is re-attached to R.A.F. as Flying Officer, with effect from Aug. 14, and with seniority of June 16, 1924. The follg. Pilot Officers on probation are confirmed in rank :—J. R. Ayling (Aug. 15) ; W. S. C Adams, R. A. Beynon, E. J. Brighton, D. A. Craik, E. B. Grace, R. Jones, G. R. Montgomery, M. G. Parker, S. P. Richards (Aug. 24).

Group-Capt. P. L. W. Herbert, C.M.G., C.B.E., is placed on half-pay list, scale A (Aug. 25). The short service commn. of Pilot Officer on probation J. Lewis is terminated on cessation of duty (Aug. 28).

Medical Branch

Flight-Lieut. G. H. H. Maxwell, M.B., is promoted to rank of Squadron-Leader (Aug. 22).

Memorandum

The permission granted to 2nd Lieut. W. Peniston-Bird to retain his rank is withdrawn on his enlistment in R.A.F. Reserve.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The follg. are granted commns. in Special Reserve as Pilot Officers on probation :—M. M. Hutchinson (June 21) ; F. W. Hartridge (June 29). The follg. Pilot Officers on probation are confirmed in rank :—J. T. S. Horsfall (Aug. 22) ; G. C. Holland (Aug. 27).

Flying Officer E. F. Smith is transferred from Class C to Class AA (1) (Aug. 14). Flying Officer C. U. G. Tristram is transferred from Class A to Class C (July 4). Flying Officer G. V. Carey relinquishes his commn. on appointment to a short service commn. in R.A.F. (Aug. 6).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified :—

General Duties Branch

Wing Commanders : R. G. D. Small, to H.Q., Fighting Area, Uxbridge, for Air Staff duties, 16.9.29. J. H. Herring, D.S.O., M.C., to H.Q., Inland Area, for Personnel Staff duties, 6.8.29. W. S. Douglas, M.C., D.F.C., to H.Q., Middle East, for Air Staff duties, 16.8.29.

Squadron Leaders : E. J. Cuckney, D.S.C., to Sch. of Tech. Training (Men), Manston, 20.8.29. M. F. Browne, to No. 1 Flying Training Sch., Netheravon, 9.8.29. G. W. Bentley, D.F.C., to H.Q., Coastal Area, 9.8.29. C. W. Mackey, to R.A.F. Training Base, Leuchars, 12.8.29. E. L. P. Morgan, to H.Q., Air Defence of Gt. Britain, 15.8.29.

Flight Lieutenants : G. O. Venn, to H.Q., Air Defence of Gt. Britain, 2.8.29. S. L. Quine, M.C., to Sch. of Army Co-operation No. 16 (A.C.) Sqdn., Old Sarum, 20.9.29. A. M. Wray, M.C., D.F.C., A.F.C., to No. 3 Flying Training Sch., Grantham, 2.8.29. F. G. Jennings, to H.Q., Coastal Area, 1.8.29. A. L. R. Duke, to No. 3 Flying Training Sch., Grantham, 17.8.29. D. W. F. Bonham-Carter, to H.Q., Wessex Bombing Area, Andover, 12.8.29. R. L. McK. Barbour, D.F.C., A.F.C., to Aeroplane and Armament Experimental Establ., Woodbridge, Suffolk, 12.8.29.

Flying Officer T. O'N. East, to R.A.F. Practice Camp, Catfoss, 21.8.29.

Pilot Officers : R. A. Beynon and M. G. Parker, to No. 2 (A.C.) Sqdn., Manston, 14.8.29. S. P. Richards to No. 4 (A.C.) Sqdn., S. Farnborough, 14.8.29. R. Jones, to No. 13 (A.C.) Sqdn., Andover, 14.8.29. W. S. C. Adams, E. B. Grace, and M. V. Delap, to Sch. of Naval Co-operation, Lee-on-Solent, 14.8.29. D. A. Craik, to No. 58 (Bomber) Sqdn., Worthy Down, 14.8.29. G. R. Montgomery, to No. 502 (Ulster) (Bomber) Sqdn., Aldergrove, 14.8.29. G. D. Hoyland, to No. 26 (A.C.) Sqdn., Catterick, 14.8.29. S. S. Mackay, to No. 35 (Bomber) Sqdn., Bircham Newton, 14.8.29. R. E. Watts, to Aircraft Depot, India, 10.7.29. T. W. G. Eady, to No. 28 (A.C.) Sqdn., India, 10.7.29. E. Rotherham, to No. 20 (A.C.) Sqdn., India, 10.7.29.

The following Pilot Officers are posted to R.A.F. Depot, Uxbridge, on appointment to Short Service Commissions (on probation), 15.8.29 :— Ralph Bagshaw Abraham, Maurice James Adam, Adam Carter Bailey, John Langton Courtenay Banks, David Barclay, David Carr, Ronald Joseph Cohen, Norris Kirkham, Arthur Noble Luxmore, John Evelyn Crosland McClure, Reuben Michael Noblston, Arthur Wilfred Brian Page, Maurice Edward Pickford, William Joseph Scott, William Bernard John Sharp, George Edward Bowes Stoney, Graham Robertson Stroud, Leslie Watson, Ralph Leonard West, and Allan Morton Wood. 16.8.29 :—John Croft Atkins and Edward Poole.

Accountant Branch

Flight Lieutenant H. W. Carpener to Station H.Q., North Weald, 12.8.29.

NAVAL APPOINTMENT

The following appointment was made by the Admiralty on Aug. 31 :—
Lieut. F.O., R.A.F.—D. W. Mackendrick, to *Vindictive*.

PERSONALS

Married

On August 31, at West Bromwich, Sec.-Lieut. WALTER JOHN DIMENT (late R.A.F.), eldest son of Mr. Walter Diment and the late Mrs. Diment, Wolverhampton, was married to RUTH, daughter of the late THOMAS JUDGE and Mrs. Judge, of Handsworth.

Sir HUBERT WILKINS and Miss SUZANNE BENNETT, the Australian actress, were married at Cleveland, Ohio, on August 30.

To be Married

The engagement is announced between Flight-Lieut. D. R. W. THOMPSON, R.A.F., Little Heath, Herts, and AILEEN MILLICENT, daughter of Mrs. and the late Rev. J. SEYMOUR HILL, of Park House, Southwell.

The marriage will take place on September 21, at St. John's, Buenos Aires, between CYRIL M. CROWE, M.C., D.F.C., only son of the late Mr. and Mrs. Edward Crowe, of Saltburn, and ELENA TEMPERLEY, elder daughter of the late Mr. ROBERT TEMPERLEY and Mrs. R. B. REISS, Villa del Sole, Cap Martin.

The engagement is announced between FLIGHT-LIEUTENANT HUGH MARKHAM DAVID, R.A.F., second son of Lieut.-Col. M. David, D.S.O., and Mrs. David, of Warwick Mansions, Cromwell Crescent, S.W.7, and GERALDINE FASSEFERN (JILL), youngest daughter of the late Rev. ANGUS CAMERON MACKENZIE, of Dundee, and Mrs. Cameron Mackenzie, of St. Petersburgh Place, W.2.

Royal Air Force College

THE Air Ministry announces :—The following Flight Cadets successfully completed on July 26, 1929, their course of training at the Royal Air Force College. The names are arranged in alphabetical order :—G. G. Barrett, W. I. H. Burke, F. C. Cole (winner of R. M. Groves Memorial Prize), E. J. Corbally, L. Crocker, Lord Douglas-Hamilton, M.A., D. J. Douthwaite, F. R. Drew, G. K. Fairtlough, M. L. Heath, W. S. Hebden, H. R. L. Hood, R. C. Keary, D. W. Lane (winner of Air Ministry Prize for Aeronautical Engineering), K. P. Lewis, L. E. J. Lucas, R. C. Mead, A. O. Molesworth, S. S. Murray, I. B. Newbiggin, K. W. Niblett (winner of Sword of Honour), R. L. Phillips (winner of Abdy Gerrard Fellowes Memorial Prize), F. A. J. Pollock-Gore, J. A. Powell, A. D. Selway, E. R. Simonds, W. V. L. Spendlove, F. W. Stannard, R. E. de T. Vintras (winner of Air Ministry Prize for Humanistic Subjects), C. A. Watt, W. T. F. Wightman.

African Air Mails

THE weekly air service between London and East Africa is to be opened as far as Mwanza, at the southern end of Lake Victoria, before August 31, of next year, and the weekly service from Cairo to Cape Town is to be in operation within a further year. The new service to East Africa will save a fortnight in the time taken for the transport of passengers and mails between London and Nairobi.

Cherbourg-Southampton Air Service

THE organisation for the air service to Cherbourg, connecting with Transatlantic liners, is nearly complete, and the French Air Ministry has authorised two English seaplanes to meet the *Berengaria* next Saturday. Permission has also been given for German machines with mails for the *Bremen* to land at Cherbourg.

Hull Municipal Aerodrome

HULL municipal aerodrome will, it is hoped, be opened next month by Prince George, who will fly from Croydon.

Alternative Route for Indian Air Mail

THE mails for India will in future go via Kantara and Amman, until the situation in Palestine show signs of improvement.

Schneider Trophy Programme

COPIES of the Official Souvenir Programme of the 1929 Schneider Trophy Contest can be obtained at the Royal Aero Club at a cost of 1*s*. per copy. The programme can also be obtained from Gale & Polden, Ltd., Wellington Works, Aldershot, and at their offices at London and Portsmouth, and the programmes will, of course, be on sale throughout the areas adjacent to the course and on board the official ships.

Little Entente Air Race

TEAMS from Poland, Yugoslavia, Czechoslovakia, and Roumania are having a race on their own. The course will be from Bucharest through Lwow, Warsaw, Prague, Brno, Zagreb, Belgrade back to Bucharest.

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.]

THE "MARTLET" UNDERCARRIAGE

[2207] Our attention has been drawn to a statement in your description of the "Martlet" light 'plane in this week's issue of FLIGHT, in connection with the undercarriage.

We are afraid that an error has crept into your description of this component, as this company had nothing to do with the design of this undercarriage, nor indeed with any part of the "Martlet" which was designed and built entirely by Southern Aircraft, Ltd. Further, the design was completed and construction well advanced before this company commenced operations at Shoreham.

We would be glad, therefore, if you would bring this fact prominently before your readers, in justice to our good friends, Messrs. Southern Aircraft, Ltd., whom we heartily congratulate on their latest product.

We think that the error must be due to confusion with our "Hobo" light monoplane which you saw on the same day as the "Martlet." We are very anxious to remove any misapprehension on this point, and will be grateful if you will draw attention to this error at your earliest opportunity.

THE HENDY AIRCRAFT CO.,
B. B. HENDERSON.

Shoreham Aerodrome,
August 30, 1929.

* * * *

Hanworth—(*Concluded from page* 987.)

the disposal of all the older clubs and our growing body of private owners—should reduce the cost of aircraft, lower rates of insurance, and stimulate the public demand for the benefits of aviation everywhere. It will reduce the cost of aircraft and help all who do not happen to be in the organisation.

"The enterprise is not only national but Imperial. I congratulate Captain Guest on his African enterprise. Africa is an excellent choice as the first point to attack, but I have a dozen other places for him to go to.

"National Flying Services, Ltd., are going to combine business with pleasure, as they can use their fleet economically. The results of their activity ten years hence cannot be assessed today; but we can confidently claim that by that time we shall have moved well along the road towards becoming a Nation of Airmen—and in this movement National Flying Services should have played a very big part."

Speaking of the camaraderie of the air Sir W. Sefton Brancker said "we have with us today Professor Theororides, Director of Civil Aviation in Greece. He has just come back from a fifteen days' trip in Europe and he can tell you how the spirit of camaraderie throughout Europe is helping the growth of civil aviation. The National Flying Services are going to extend the brotherhood and make our prestige good in those countries. (Applause.)

"I congratulate Captain Guest and all the staff on what they have done up to date, and I wish them the best of luck in the future."

* * * *

Calcutta Flying-Boat for France

THE French Ambassador and Assistant Naval Air Attaché had a trial trip in the Calcutta which Short Bros. have built for the French Government, when they visited Rochester on Tuesday, September 3.

Cologne to London in 145 Mins.

A FAIREY-NAPIER machine returning from demonstrating before the Greek Government, covered the distance between Cologne and London in 145 mins., which is claimed to be a record.

Portuguese Naval Mission

A PORTUGUESE Naval Mission, composed of Major M. Carvalho, Assis.-Director of Naval Aeronautics, Air Lieuts. Viana and Oliveira, has left Lisbon for England in order to purchase naval aircraft.

Miles and Miles of Hendersons

As considerable confusion appears to be prevalent concerning the identity of several personalities with similar names in the aircraft world, it may be useful to elucidate the position for the benefit of readers of FLIGHT. First, we have Col. G. L. P. Henderson, who is the proprietor of the Henderson Flying School at Croydon. Col. Henderson is also the Henderson of Glenny & Henderson, of Byfleet, the constructors of the little Glenny & Henderson "Gadfly" monoplane which was exhibited at Olympia. At Shoreham is located another Henderson, Mr. Basil B. Henderson, managing director of the Hendy Aircraft Co., which firm has now nearing completion a little light monoplane, to be known as the Hendy "Hobo." Mr. B. B. Henderson's chief engineer is Mr. H. A. Miles, not to be confused with Mr. F. G. Miles who is managing director of Southern Aircraft, Ltd., also situated at Shoreham aerodrome. Mr. F. G. Miles, of S.A.L., does a considerable business in joy riding, and also carries out work of reconditioning old aircraft, as well as extensive modifications such as that which has resulted in the "Martlet," described and illustrated elsewhere in this week's issue.

K.L.G. Plug Experiments

K.L.G. SPARKING PLUGS, LTD., have been conducting extensive experiments with aviation sparking plugs for the last two years, and have now developed a range of miniature plugs which has already received a large measure of approval and success. The outstanding feature of this new range is the small overall length and the very considerable reduction in weight. The 550 is a third smaller than the well-known F.12, while its weight is only 50 per cent. of the latter. On a 12-cylinder engine, using two plugs per cylinder, the actual saving in weight achieved by the use of these new plugs is over 3½ lbs. While the general form of the inside of these plugs is comparable to that of the older series, their construction introduces many new features. The central electrode is now made in a special alloy steel and the firing point is formed integral with it. The actual insulation, as in the F.12, consists of overlapping wrappings of sheet mica—these wrappings being protected by washers of mica compressed together and polished on their edges to form a smooth surface on the insulated centre. The central electrode, with its insulating wrapping, carries about its centre a steel ring which is compressed on to the electrode and, subsequently, into a gland nut. This ring ensures a high degree of gas-tightness which is maintained throughout the life of the plug. It is interesting to note that these small plugs were used both in the "Napier" engine of the Fairey monoplane for the R.A.F. non-stop flight to India—4,130 miles in 50 hrs. 38 mins.—and in the Bristol-Jupiter engine of the machine piloted by Captan Barnard for the Duchess of Bedford's record return flight to India in 7½ days.

* * * *

PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda: No. 1221 (M. 61). *The Effect of Stress upon the X-ray Reflections from Tungsten Wire at Air Temperature.* By H. L. Cox and I. Backhurst. January, 1929. Price 9*d.* net. H.M. Stationery Office, Kingsway, London, W.C.2.

Amendment List No. 4 to Air Publication 1208. June, 1929. Airworthiness Handbook for Civil Aircraft. H.M. Stationery Office, Kingsway, London, W.C.2. Price 1*s.* 6*d.* net.

Weather and the Airplane. By Edward H. Bowie. The Daniel Guggenheim Fund for the Promotion of Aeronautics, Inc., 598, Madison Avenue, New York.

* * * *

AERONAUTICAL PATENT SPECIFICATIONS

(*Abbreviations:* Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

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23,901. DORNIER METALLBAUTEN GES. and DR. C. DORNIER. Aircraft. (298,187.)
26,850. G. L. R. J. MESSIER. Brake control system. (297,429.)
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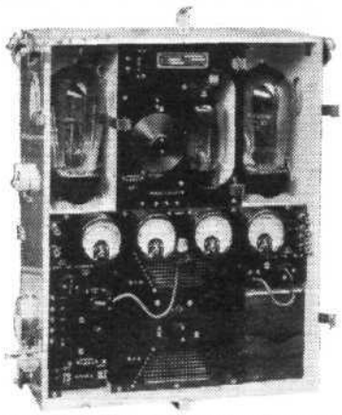
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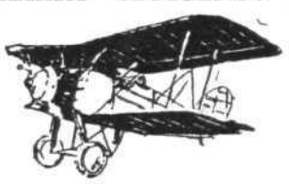
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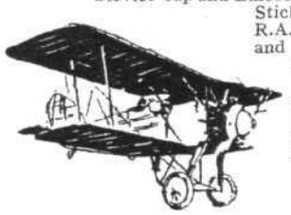
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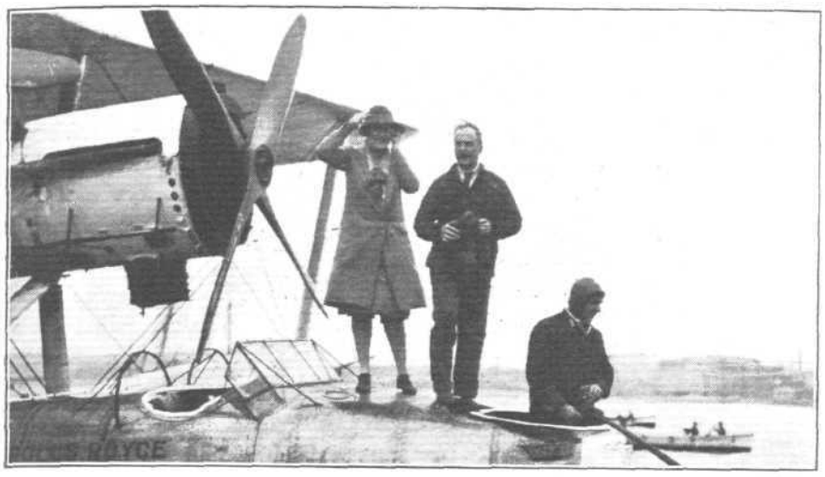
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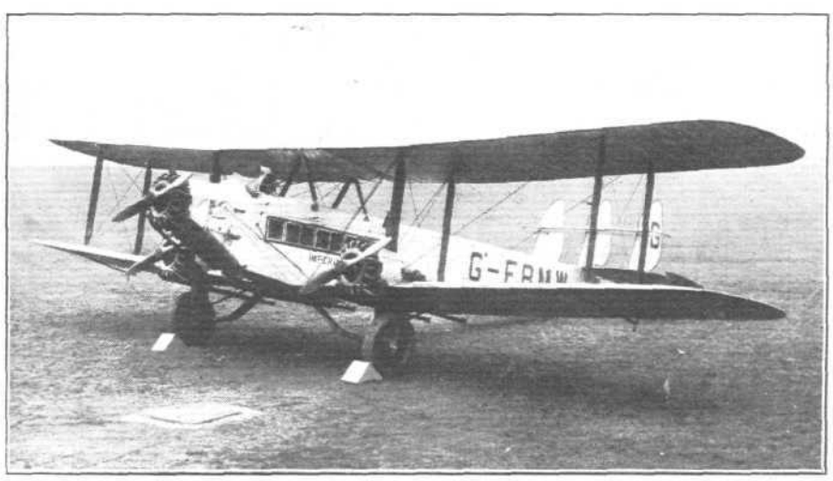


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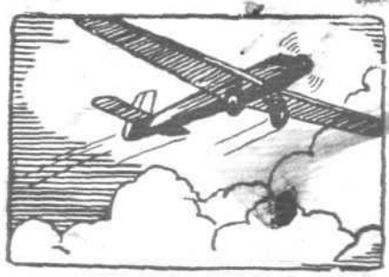
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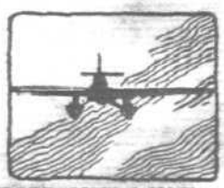
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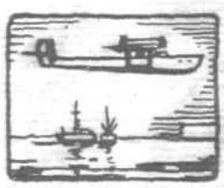
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